DEMSOC 2012



13th Annual Report The Honorable Jack Markell, Governor





DELAWARE EMERGENCY MEDICAL SERVICES OVERSIGHT COUNCIL



April 15, 2013

To the Citizens of Delaware:

On Behalf of Governor Jack Markell and the Delaware Emergency Medical Services Oversight Council (DEMSOC), I am pleased to present the 2012 DEMSOC Annual Report.

DEMSOC was created in 1999 in response to House Bill 332, otherwise known as the EMS Improvement Act, to promote the continuous development and improvement of Delaware's EMS System. The membership of DEMSOC includes professionals from several EMS provider agencies, representatives from agencies that frequently work with and support EMS, and private citizens knowledgeable in the delivery of EMS care. The Council meets quarterly to address current issues and provide support for developing workable solutions to those issues.

The purpose of this report is to inform others about Delaware's Emergency Medical Services (EMS) system and increase awareness of the issues that most directly affect the delivery of EMS service and the quality of EMS patient care. Throughout the year we have witnessed great achievements in the EMS community and this report attempts to capture those successes as well as to build the framework for addressing the challenges that lie ahead.

As you review this year's report, I encourage you to use the information provided to become more aware of the important role of our EMS system in Delaware, and I ask for your continued support for the dedicated professionals and volunteers that work hard to ensure that our EMS system remains a leader among its peers.

espectfully yours,

Lewis D. Schiliro, Chair

Cabinet Secretary

Department of Safety and Homeland Security



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Introduction

The Delaware Emergency Medical Services Oversight Council (DEMSOC) annual report represents an overview of the available information regarding the progress and state of Delaware's EMS system. The inaugural report published in 2000, enabled DEMSOC to establish a baseline from which to measure the impact of changes and growth in Delaware's EMS system. DEMSOC presents this annual report in accordance with Title 16, Chapter 97, §9703 of the Delaware Code.

It is DEMSOC's vision that Delaware's EMS system represents true excellence in out-of-hospital health care.

As you read the 2012 Annual Report, we are confident that you too will be proud of the State of Delaware's Emergency Medical Services current capabilities, and marvel at the progress that has been made in the previous 12 years. The DEMSOC members are encouraged by the system's successes, optimistic about the future and are looking forward to continuing enhancements to the EMS services provided to the State in the years to come.

What EMS Does

The goal of Delaware's Emergency Medical Services system (EMS) is to provide the right level of care at the right place and the right time. This is accomplished through a well-coordinated tiered system of response that includes many agencies. Each agency has an integral role in providing the highest level of pre-hospital medical care to the citizens and visitors of the State.

EMS in Delaware includes:

- Public safety dispatch centers
- Ground and air ambulance services
- Fire services
- County paramedic services
- Law enforcement agencies
- Local and State EMS agencies
- Hospitals and specialty care centers
- Training institutions and organizations
- Citizen, professional, and technical advisory groups
- Other governmental and voluntary organizations

Who We Are:

- •1169 Certified First Responders
- •1293 EMT-Basics
- •276 Paramedics
- •151 Dispatchers
- •8 Medical Directors
- ●67 Regulatory, Managerial & Support Personnel (DEMSOC, OEMS, SFPC, DE State Fire School)



EMS services provided to the State of Delaware include:

There are 55Basic Life Support (BLS) ambulance agencies comprised of a combination of paid and volunteer EMS providers. Paramedic Advanced Life Support (ALS) services are provided state-wide by the three counties while the State Police Aviation Division provides the majority of 911 aero-medical services with assistance from one inter-facility service. Additionally, the state is serviced by nine BLS inter-facility medical transport services, three ALS inter-facility medical transport services and one specialty hospital transport service. The units that respond to 911 calls for service receive their directions from certified dispatch centers located throughout the state.

- •130 BLS ambulances providing 911 services
- •105 BLS ambulances providing non-emergency services
- •19 Full Time & 3 Part Time ALS units providing 911 services
- •5 ALS Supervisor units
- •3 Air Medical helicopters providing 911 services
- •2 ALS agencies providing non-emergency services

The majority of 911, emergency patient transportation is provided by the volunteer BLS fire-based ambulance services and the Delaware State Aviation Division. ALS services are provided through a system of chase or intercept paramedic units operated by the three counties. These ALS units respond in conjunction with the BLS transport units. In 2012, the EMS system in Delaware responded to the following incidents: (information based on EMS patient care reports)

- •192597 Statewide Total Run Reports
- •147861 Medical Incidents
- •122091 Basic Life Support Incidents
- •32058 Trauma Incidents
- •70506 Paramedic Incidents
- •9762 Pediatric Incidents (0-17yrs)
- •222 Air Medical Transports
- •6096 ALS Cardiovascular Incidents



EMS System Oversight

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Delaware Emergency Medical Services Oversight Council DEMSOC

The Delaware Emergency Medical Services Oversight Council (DEMSOC) was formed pursuant to the Delaware Emergency Medical Services Improvement ACT of 1999 HB332). The council is charged with monitoring Delaware's EMS system to ensure that all elements of the system are functioning in a coordinated, effective, and efficient manner in order to reduce morbidity and mortality rates for the citizens of Delaware. It is also charged with ensuring the quality of EMS services in Delaware.

DEMSOC consists of 20 members appointed by the Governor. The Secretary of The Department of Safety and Homeland Security, Lewis Schiliro, serves as the chairman. Also serving on the council is the Secretary of Delaware Health and Social Services, Rita Landgraf. DEMSOC includes representatives from the following agencies: the Governor's Office, each county government, the Delaware State Fire Commission, Prevention The Delaware Volunteer Fireman's Association and its Ambulance Committee. The Delaware Healthcare Association, The Delaware Police Chief's Council, The Delaware Chapter of the American College of Emergency Physicians, The State Trauma System Committee, The Medical Society of Delaware, The Delaware State Police Aviation Section, and the State **EMS** Medical Director. There representative for practicing field paramedics and three at large appointments for interested citizens, one from each county. The Office of Emergency Medical Services is assigned to Delaware Health and Social Services Division of Public Health and is the regulatory authority for the paramedic system and provides medical oversight to the state's EMS system.







Hon, Lewis Schiliro

Robert Stuart







Hon. Rita Landgraf

Robert Ricker

Wayne Smith







Charles Boyer

Colin Faulkner









Dr. Ross Megargel



Sgt. Keith Mark

Edward Marecki





Glenn Luedtke

Mike McMichael







Kenneth Dunn

Not pictured: Rich Bounds, Robert Coyle, Jr., Gregory Patterson

Delaware EMS Oversight

Delaware is a frontline leader in prehospital emergency care through comprehensive coordination, development and evaluation of the statewide emergency medical services system. The Delaware EMS system is a two tiered EMS delivery system with shared oversight of Basic Life Support services and personnel by the State Fire Prevention Commission and Advanced Life Support services and personnel by the Office of EMS within the Division of Public Health within the Department of Health and Social Services.

The Office of Emergency Medical Services (OEMS) is responsible for coordination of training, certification, financing, and oversight of the state's paramedic system.

EMS Medical Direction is provided by emergency medical physicians that are employed by the Office of EMS. They provide medical direction to both Advanced Life Support (ALS) and Basic Life Support (BLS) services.

The Delaware State Fire Prevention Commission (SFPC) oversees Basic Life Support (BLS) services through the Ambulance service regulations. The regulations address administrative, operational, and provider requirements. This includes emergency as well as non-emergency ambulance services.

Service Employer Volunteer Agency EMIS Provider State EMS Medical Director County EMS Medical Directors OEMS and BMLD: Paramedic Service Employer Volunteer Agency Medical Direction State EMS Medical Director County EMS Medical Directors Assoc. County EMS Medical Directors BLS Medical Directors

The Office of Emergency Medical Services (OEMS)



The mission of the Office of Emergency Medical Services is to assure a comprehensive, effective, and efficient statewide emergency medical care delivery system in order to reduce morbidity and mortality rates for the citizens of Delaware. The OEMS ensures the quality of emergency care services, including trauma and prehospital advanced life support capabilities, through the coordination and evaluation of the emergency medical services system, within available resources.

Responsibilities of this agency include:

Advanced Life Support Services (ALS): The OEMS ensures highly trained paramedics are providing quality emergency care to the citizens and visitors of Delaware. The OEMS is responsible for coordination of training, certification, financing, and oversight of the state's paramedic system.

Statewide Trauma System: This program is responsible for coordination of hospitals and provider agencies to ensure optimal care for trauma patients.

Prehospital Patient Care Reports: The EMS Data Information Network (EDIN) system collects EMS report data electronically on a real-time basis and provides administrators with a powerful resource management, and research tool. The EDIN system collects, at minimum, over 130 data points covering demographic, assessment, and treatment phases of an EMS incident.

EMS Medical Direction: This program is responsible for providing medical oversight of the statewide EMS system (Advanced/Basic Life Support, and emergency medical dispatch), review and modification of the statewide standard treatment protocols, oversight of medical command facilities, conducting research and oversight of the statewide EMS quality assurance program.

Emergency Medical Services for Children (EMSC): The goal of this program is to improve emergency care for children in the State of Delaware through specialized activities. The Special Needs Alert Program (SNAP) and Safe Kids are part of the programs within EMSC.

First State, First Shock Early Defibrillation Program: This program is responsible for providing data collection, training, and prevention activities in support of initiatives to reduce cardiac arrest deaths in Delaware.

Crash Outcome Data Evaluation System (CODES): This program analyzes data to gain a more comprehensive understanding of the causes and impacts, both medical and financial, of motor vehicle crashes, and is better equipped to develop injury prevention programs with demonstrated potential for improved outcomes.

EMS Infectious Disease Exposure Monitoring: The need for an effective infection control program has always been an essential and integral part of the prehospital practice in Delaware because there is both the risk of healthcare providers acquiring infections themselves and of them passing infections on to patients. Preventive and proactive measures offer the best protection for individuals and organizations that may be at an elevated exposure to these infectious diseases.

State Regulations promulgated through OEMS:

Delaware Trauma System Regulation: The State Trauma System regulations were first promulgated in 1997 to add detail to the Trauma System enabling the legislation of 1996. Subsequent revisions were enacted in 1999 and 2001. The regulations include sections on the Trauma Center Designation Process, Trauma Center Standards, Triage, Transport, and Transfer of Patients, and the Trauma System Quality Management Plan.

Air Medical Ambulance Service Regulation: The purpose of this regulation is to provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware. These regulations intend to ensure that patients are quickly and safely served with a high standard of care and in a cost-effective manner.

Early Defibrillation Provider Regulation: The purpose of this regulation is to establish the criteria for training and the right for emergency responders to administer automatic external cardiac defibrillation in an out-of-hospital environment.

Advanced Life Support Interfacility Regulation: The purpose of this regulation is to permit the use of paramedics, under the oversight of the Division of Public Health, to manage patients while in transit between medical facilities or within a healthcare system. It includes approval of an organization to provide service using paramedics, as well as defining their scope of practice and medical oversight.

Organ and Tissue Donor Awareness Board (OTDAB): The Office of EMS provides staff support and represents DHSS on the Delaware Organ and Tissue Donor Awareness Board. Created by Delaware Code, Title 16, Chapter 27, Anatomical, Gifts and Studies, §2730, this Governor-appointed board has the responsibility of promoting and developing organ donor awareness programs in Delaware. These programs include, but are not limited to, various types of public education initiatives aimed at educating residents about the need for organ donation and encouraging them to become designated organ donors through the State driver's license program.

As of November 14, 2012 there were 631 Delaware residents waiting for an organ transplant, increased from 577 in 2011. In the State of Delaware, 368,562 (48.06%) drivers have designated themselves as organ donors on their driver licenses or state ID's as of January 1, 2013. In order to promote donor designation among Delaware residents, OTDAB partners with the Gift of Life Donor Program and other organizations on public education and awareness projects each year. The goal is an increase of 10,000 donor designations by July 1, 2013.

Office of Preparedness

As part of the State of Delaware Department of Health and Social Services, the Emergency Medical Services and Preparedness Section's Office of Preparedness continues to oversee the Public Health aspect of threats and emergencies throughout the state. Together with their partners throughout the state and Mid-Atlantic Region, the office maintains responsibility for responses such as a flu epidemic, weather events, NASCAR events, and terrorism.

Created in 2002, the Office of Preparedness has grown from a few people to a fully staffed office and warehouse with many partners throughout the state. In 2011, Preparedness merged with the Office of Emergency Medical Services to streamline capabilities. Meetings are held routinely to maintain open communication and an open working relationship.

Housed at the Delaware Hospital for the Chronically III in Smyrna, Delaware the office operates the State Health Operations Center (SHOC) along with a warehouse in Dover. SHOC activation during a disaster allows the convergence of Public Health assigned personnel to oversee and manage Public Health Emergencies.



Managed and funded through the Centers for Disease Control and Prevention, the Office of Preparedness continues to develop and implement plans and exercises throughout the state while also training state employees, a Medical Reserve Corps, and the general public for preparing individuals and families in the event of emergencies.

Federal guidelines outline the Public Health Preparedness Capabilities listed below. The Office of Preparedness, along with other branches of the Division of Public Health and other state agencies, partner to perform the capabilities described.

COMMUNITY RESILIENCE

- 1. Community Preparedness
 - a. Training over 800 attended trainings such as SHOC 101 and Family Emergency Preparedness
- b.Outreach events over 8,000 attended events and obtained outreach material 2.Community Recovery
 - a. Continuity of Operations Planning (COOP) exercises that ensure Public Health essential functions continuing during emergencies.
 - b. Emergency preparedness community workshops and presentations for senior and special needs populations for over 200 participants. Partner groups included Independent Resources, Inc., the Modern Maturity Center, Delaware Citizen Corps, the University of Delaware Center for Disabilities Studies, Bayhealth Medical Center, and Delaware Medical Reserve Corps.
 - c. Public Health response after a weather event to include drinking water testing and mold inspections

INCIDENT MANAGEMENT

- 3. Emergency Operations Coordination
 - a. State Health Operations Center staffing
 - b.Delaware State Department of Health and Social Services Disaster Preparedness Meetings
 - c.Detailed After Action Reports and Improvement Plans are conducted after every exercise and real event to evaluate what occurred and to improve response



INFORMATION MANAGEMENT

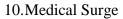
- 4. Emergency Public Information and Warning
 - a. Health Alert Network communications (https://www.healthalertde.org/)
 - b.Press releases and social media communications
 - c. Public Health Call Center

SURGE MANAGEMENT

- 5. Fatality Management
 - a. Mortuary Response System cold storage capacity of 144 bodies
 - b.Stockpile of over 5000 body bags
- 6.Information Sharing
 - a. Monthly/Quarterly meetings with partner agencies
 - b.State Emergency Response Delaware (SERVDE) website communication (www.servde.com)
 - c. Health Alert Network communications (https://www.healthalertde.org/)
- 7.Mass Care
 - a. Public Health provides the medical supplies and personnel for the medical component of shelters

COUNTERMEASURES AND MITIGATION

- 8. Medical Countermeasure Dispensing
 - a. Maintain Plans for
 - i.Strategic National Stockpile (SNS)
 - ii.Receiving, Staging, and Storage (RSS)
 - iii.Points of Dispensing for medications
 - iv.Clinics for flu vaccinations
- 9. Medical Material Management and Distribution
 - a. Maintain warehouse and logistics staff to deploy medical materials such as 800 MHz Radios, oxygen, cots, nursing equipment and personal protective equipment



- a. Mobile Medical Facility
- b.Portable Decontamination Shelters
- c. Acute Care Centers
- d.Delaware Medical Reserve Corps (DMRC) volunteers





- 11. Non-Pharmaceutical Interventions
 - a. Medical Ethics Advisory Group oversees and recommends procedures during events and exercises

BIOSURVEILLANCE

- 12. Public Health Laboratory Testing
 - a. Testing capabilities for bacteria, viruses, drinking water and chemical agents
 - b. Maintains a program with hospital laboratories to coordinate specimen handling and transport
- 13. Public Health Surveillance and Epidemiological Investigation
 - a. Conducts syndromic surveillance of chief complaint data at hospital emergency departments
 - b.Performed routine public health case identification, follow-up and reporting on all Delaware reportable diseases.
- 14. Responder Safety and Health
 - a. Personal Protective Equipment
 - b.Psychological First Aid workshops

SURGE MANAGEMENT

- 15. Volunteer Management
 - a. Delaware Medical Reserve Corps volunteers



For 2013 – 2016 the focus of the Office of Preparedness is the revision of the current plans in order to streamline operations, processes, and equipment. There are several exercises planned that will involve multiple agencies with the continued goal to have a full scale exercise in 2016.

Reference:

U.S. Department of Health and Human Services Centers for Disease Control and Prevention, Public Health Preparedness Capabilities: National standards for State and Local Planning, March 2011 http://www.cdc.gov/phpr/capabilities/
Photos taken by staff of the Office of Preparedness

Delaware State Fire Prevention Commission (SFPC)

Submitted by the Delaware State Fire School



The State Fire Prevention Commission is charged with the protection of life and property from fire for the people of Delaware and to oversee the operation of the Delaware State Fire Marshal's Office and the Delaware State Fire School.



Left to Right:
Bob Ricker
Charles Frampton
David Roberts, Chairman
Alan Robinson, Vice Chairman
Ron Marvel
Tom DiCristofaro

Not Pictured: Marvin Sharp

The Statutory responsibilities of the Delaware Fire Prevention Commission are to promulgate, amend, and repeal regulations for the safeguarding of life and property from hazards of fire and explosion. The Statutory responsibilities of the State Fire Prevention Commission may be found in Title 16, Chapter 66 & 67 of the Delaware Code and are summarized as follows but not limited to:

- The Commission consists of seven persons appointed by the Governor.
- They have the power to promulgate, amend and repeal regulations for the safeguarding of life and property from hazards of fire and explosion.
- Prior to promulgation, they shall hold at least one public hearing on each regulation, amendment or repealer and shall have the power to summon witnesses, documents and administer oaths for the purpose of giving testimony.
- They shall appoint the State Fire Marshal and State Fire School Director.
- The Commission shall have power to authorize new fire companies or substations; resolve boundary and other disputes; prohibit cessation of necessary fire protection services.
- The Commission is empowered to enforce its orders in the Court of Chancery.

Delaware State Fire School (DSFS)



Delaware Code, Title 16, Chapter 66, §6613 – 6618, mandates the Delaware State Fire School to: (1) provide firefighters with needful professional instruction and training at a minimum cost to them and their employers; (2) develop new methods and practices of firefighting; (3) provide facilities for testing firefighting equipment; (4) disseminate the information relative to fires, techniques of firefighting, and other related subjects to all interested agencies and individuals throughout the state; and (5) undertake any project and engage in any activity which, in the opinion of the State Fire Prevention Commission, will serve to improve public safety.







New Castle County Division

Delaware State Fire School

Sussex County Division

In order to comply with the statutory mandate, the State Fire School established a goal "to provide fire, rescue, emergency care, and related training to members of the fire community, industry, agencies, institutions, and the general public requiring specific programs and any program which will serve to benefit the safety of the public". The primary activities center on operations at the State Fire Training Center west of Dover. Other activities are consolidated into in-service fire department training courses, training programs for state agencies, institutions and industrial facilities, public education programs, and emergency care and first aid courses.

The agency objectives established to achieve that goal are:

- To provide firefighters with needful professional instruction and training.
- To provide basic life support personnel with needful professional instruction and training.
- To provide rescue personnel with needful professional instruction and training.
- To certify basic life support personnel as State of Delaware Emergency Medical Technicians.
- To inspect and license ambulances that operate within the State of Delaware.
- To provide agency, institutional and industrial personnel and the general public with needful professional instruction and training.
- To disseminate information relative to fires, techniques of firefighting, and other related subjects to all agencies and individuals throughout the state.
- To develop new methods and practices of firefighting.
- To provide facilities for testing of firefighting equipment.

On July 1, 1972, the State Fire Prevention Commission was also given the mandate under Delaware Code, Title 16, and Chapter 67, §6708 – 6714, to regulate the ambulance service in Delaware. The Commission assigned to the State Fire School the added duties of inspecting and licensing ambulances and the training and certifying of ambulance personnel.

Ambulance Service Regulations – This regulation is to ensure a consistent and coordinated high quality level of ambulance service throughout the state focusing on timeliness, quality of care and coordination of efforts. This regulation addresses BLS Ambulance Service and Non-Emergency Ambulance Service. It clearly defines the administrative and operational requirements for such entities.

The State Fire Prevention Commission has adopted, as a regulation, a Statewide Quality Assurance and Improvement Committee. This committee, under the direction of the State Medical Director, is responsible for assuring and improving the quality of Basic Life Support within the EMS systems that serve the State of Delaware. By conducting medical incident reviews and evaluating patient care statistics, the committee is able to provide constructive feedback on quality improvement to all EMS professionals within the State of Delaware.

The State Fire Prevention Commission also adopted a BLS regulation that detailed EMS Educational Program Administrative Standards and Guidelines. This regulation describes the standards and guidelines for emergency medical services (EMS) educational agencies that present programs for the First Responders/ EMT-Bs in the State of Delaware. The regulation was developed to insure that all students receive the highest quality of training approved by the State Fire Prevention Commission and the Office of Emergency Medical Services.

Office of the Fire Marshal (OFM)



In 1953, at the urging of the Volunteer Fire Service, the State Legislature created the Office of the State Fire Marshal and directed that regulations, reflecting nationally recognized standards, be promulgated to enhance life safety and property conservation for the citizens of Delaware.







New Castle County Division

Fire Marshal's Office

Sussex County Division

The State Fire Marshal's Office functions as an independent state agency under the State Fire Prevention Commission, which promulgates the State Fire Prevention Regulations, as enforced by the State Fire Marshal's Office. As the law enforcement agency charged by state statute with the suppression and investigation of arson, the State Fire Marshal's Office provides the lead role in fire and arson investigations, statewide. The agency is charged with assisting the Chief of any fire department on request, inspections and code enforcement in health care facilities, educational occupancies, public assembly, public accommodations, flammable and combustible liquids, flammable gases, explosives and fireworks.

The State Fire Marshal's Office is responsible for the comprehensive compliance with the state statute for the installation of smoke detection devices in all residential occupancies, which will greatly reduce the likelihood of injuries and deaths from fire.

The objective of the State Fire Marshal's Office is to provide a fire safe environment for the citizens of Delaware and all who visit and carries out its mandate for Public Service, through the work of three divisions, Administration, Field Operations & Technical Services.

Number of Fire Fatalities	9
Number of Burn Injuries Investigated by SFMO	34

2012 Delaware State Fire Marshal's Office Data

Medical Direction

Medical direction involves granting authority and accepting responsibility for the care provided by EMS, and includes participation in all aspects of EMS to ensure maintenance of accepted standards of medical practice. Quality medical direction is an essential process to provide optimal care for EMS patients. It helps to ensure the appropriate delivery of population-based medical care to those with perceived urgent needs. (National Highway Traffic Safety Administration)

Structure

Delaware's Emergency Medical Services (EMS) responds to and provides medical care to victims of illness and trauma through a statewide coordinated medical system of EMS responders. EMS responders include 911 dispatchers, first responders, Basic Life Support (BLS) providers, paramedics or Advanced Life Support (ALS) providers, and on-line emergency physicians who oversee individual patient care. All of these EMS responders are medically coordinated through protocols and training directed and overseen by a select group of Board Certified Emergency Physicians licensed in Delaware.

Delaware employs emergency physicians to devote part of their professional efforts to the State EMS system. They include:

- •State EMS medical director
- •State BLS EMS medical director
- •County EMS medical directors (one for each county)
- •County associate EMS medical directors (one for each county)

The BLS and county medical directors are accountable to the state EMS medical director. The medical directors meet regularly to review statewide treatment protocols, quality issues, new medical techniques and equipment in a continuing effort to provide the citizens of Delaware with the most up-to-date and appropriate EMS care possible. All EMS medical directors are required to take the National Association of Emergency Medical Services Physicians' (NAEMSP) Medical Directors course.

Delaware's EMS Medical Directors assure quality care to patients through interactions with other physicians, hospitals, citizen groups, and organizations such as, the American Heart Association and the Medical Society of Delaware. They review aggregate patient care data from the providers to determine the effectiveness of the treatment protocols. Retrospective medical oversight occurs through interactions with EMS personnel at hospital emergency departments and subsequent to problem case identification. Certain high risk or intensity cases are routinely identified for automatic medical direction review.

Patient Care Reports (PCR) – Transfer of information to hospital medical providers

Throughout medicine it is widely accepted that patient care is not completed until the patient care report has been completed. The EMS PCRs provide important information to the initial circumstances surrounding the patient's condition, the patients' vital signs, initial physical findings, response to treatment and other information are vital to patient care and disposition. EMS providers within our state function as the "eyes and ears" of the ED physician.

Unfortunately with our current PCR (EDIN), PCRs cannot be sent/delivered to a hospital until they are printed and handed to hospital personnel or printed and faxed to a hospital. This provides a significant delay in the medical providers having access to what can be critical information. The Delaware Office of Emergency Medical Services (OEMS) has been auditing when PCRs are printed and has collated those print times into this report.

"As a practicing emergency medicine physician I can attest to the importance of PCRs to patient care. Some claim that a report to a triage nurse should be adequate, maybe in an ideal world, however in the conditions that we all really work in, triage reports are not adequate, information is not reported in detail, not heard, not recorded and lost between handoffs to other medical personnel. A PCR is currently the only good method to transfer this vital information." (Dr. Ross Megargel) In a large part of Delaware's EMS community, PCRs are not completed for greater than 24 hours! This information has been reported to Delaware's EMS community, yet there has been very little improvement.

Advanced Life Support	# PCRs	Print Time > 24 hrs.
New Castle County	22,784	92 or 0.4%
Paramedics		
Kent County Paramedics	7,018	56 or 0.8%
Sussex County Paramedics	10,754	31 or 0.3%
Delaware State Police	221	2 or 0.9%

Basic Life Support	# PCRs	Print Time > 24 hrs.
New Castle County BLS	55,273	25,038 or 45%
(25 agencies)		
Kent County BLS	17,185	5,363 or 31%
(15 agencies)		
Sussex County BLS	18,973	6,516 or 34%
(21 agencies)		

2011-2012 Initiatives

- •Field Providers Work Hours: We are addressing concerns regarding the excessive continuous work hours that some of the field providers are working without the opportunity for uninterrupted down time. This happens when providers work for several provider agencies, moving from one to the other without rest between. These types of schedules are leading to a number of real and potential problems/liabilities:
 - oIncreased medical errors
 - oIncreased aggressiveness
 - oMotor vehicle crashes
- •EMS Funding: EMS funding is a considerable issue within our state. When the ALS system was developed in our state, it was set up that the state would reimburse the county paramedic services 60% of all operational costs. Unfortunately, with the fiscal environment today that number as of the start of FY11 has dropped to 30%. As a result,

the county agencies have had to make some difficult decisions as to reductions of service. Some of those reductions (or proposed reductions) include:

- Reduced administrative support staff
- oReduced Quality Assurance/Quality Improvement (QA/QI) data analysis
- oReduced participation in State EMS planning, QA, protocol development and training.
- •Systems of Care Development: Delaware is fortunate to have a well-developed inclusive Trauma System and an inclusive Pediatric System. The next initiative is the development of a Stroke System of Care. Currently, our EMS system is able to transport victims of stroke to stroke centers in each county. Delaware has significant Stroke Care capabilities offered through Christiana Care that can now offer stroke care to victims of stroke not yet available to most of the country. These new stroke services are time critical and extend the time available for treatment of stroke from four and a half (.45) hours out to eight hours. It is the hope of neurology, neuro-internationalist, neurosurgeons, emergency medicine physicians and EMS physicians to be able to offer these new life saving services to all Delaware citizens and visitors via the development of a comprehensive Stroke System of Care. We have developed protocols that identify the need for transport to an appropriate facility. Emergency percutaneous coronary intervention (PCI) or angioplasty capabilities in each county have been identified and are the preferred centers for transportation of patients having a heart attack. The following are a few major obstacles that have been identified:
 - oCurrently there is no funding for a system coordinator
 - ONeed for development/legislative change for protected peer review
 - ONeed to identify systemic performance measures for QA/QI
 - oLacks outside, independent verification
- •Use of Pre-hospital Continuous Positive Airway Pressure (CPAP): Delaware was early to identify the usefulness of pre-hospital CPAP and embrace the use of CPAP systems for patients in respiratory distress. The use of this type of device continues to reduce overall healthcare costs for these patients with shorter hospital stays and improved patient comfort and outcomes. We are continuing the program that allows the use of these devices in the BLS community with success.
- •Sepsis Protocols and Recognition: With recent published information regarding the early identification of sepsis (patients with life-threatening infections) and survivability, the state implemented a field testing program through the use of point of care testing for lactic acid levels by paramedics. This point of care testing is part of an optional ALS protocol to help identify patients who are likely suffering from sepsis and begin treatment by pre-hospital care providers. This evidence based protocol is expected to shorten the time it takes patients with sepsis to receive the appropriate treatment. Research has shown that the sooner we identify patients with severe infections or sepsis and initiate antibiotic therapy the more likely they are to survive, and to survive with less morbidity. In the near future we expect to initiate prehospital IV antibiotic therapy on our septic patients with longer transport times.

•Updated Standing Orders and EMS Safety: In 2011, the EMS medical directors reviewed the standing orders with the intention of updating them to the new American Heart Association's resuscitation guidelines. Included in this update are modifications to the trauma and pediatric standing orders. These Standing Orders were implemented by our paramedics in November of 2012 and the Fire Commission initiated the BLS Standing Orders in January 2013. The medical directors have been and continue to advocate for EMS safety and the standing orders are no exception. From an EMS medical director's perspective, red lights and siren responses, and transports, are an EMS safety issue for patients, EMS providers and the traveling public. The State Fire Prevention Commission's regulations currently do not address the use of red lights and siren during EMS responses. The State Fire Commission has agreed to begin the process of addressing this issue and has made verbal commitments to address this problem in the near future. The EMS medical directors continue to advocate for patients, EMS providers and the public, by reminding field providers, within the standing orders, that for many of the patients transported to the hospital, red lights and sirens are not indicated.



EMS SAFETY "A Culture We Can Live With"

Delaware Ems Safety Initiatives

The EMS field has been identified as a high-risk industry and safety impacts more than just EMS personnel. Safety in EMS affects our patients, EMS responders, and the public and includes factors such as vehicle operations, medical errors, infectious diseases, scene safety and responder health and fitness, just to name a few.

On average, approximately 23,000 EMS workers are injured annually and there is a strong impetus from many agencies to stop the increase in EMS worker injuries. These agencies include The US Department of Transportation (DOT), The US Occupational Health and Safety Administration (OSHA), The National Association of Emergency Medical Technicians (NAEMT), The International Association of Fire Chiefs (IAFF), The National Fire Protection Association (NFPA) and many others. The intense interest of these many agencies in the safety and welfare of emergency services workers indicates the magnitude of the number and type of injuries sustained by the nation's EMS workers.

Following the tragic events of 2008 in which Sussex County Paramedic Stephanie Callaway and Delaware City EMT Michelle Smith were killed in the line of duty, several initiatives were taken, aimed at increasing the awareness of the risks associated with the EMS profession and how to reduce those risks. In the past year, the following steps have been taken:

- •Delaware's EMS community participated in the development of the National Association of EMT's (NAEMT) "EMS Safety Course" which was introduced at the EMS Today Conference in Baltimore in March of 2011
- "EMS Safety Course" was presented at the Delaware State Fire School (DSFS), during which a number of Delaware providers were certified as instructors
- •DSFS has since established a schedule that will offer the course at their facilities throughout the state
- •The "EMS Safety Course" will be presented at the Delaware Volunteer Firefighters' Association conference in September of 2012
- •Individual agencies have conducted courses for their members, and other courses are scheduled throughout the state
- •Changes in statewide treatment protocols aimed at reducing the use of warning lights and sirens

Delaware is also represented on a committee established by the National Fire Protection Association (NFPA) to establish a new standard for the design and construction of ambulances. This new standard, known as NFPA 1917, replaced the existing KKK-1822 standard established by the National Highway Traffic Safety Administration (NHTSA) as a bid specification document. Already under revision, NFPA 1917 seeks to incorporate automotive engineering design, ergonomics, and new technologies to create a safer ambulance.

A member of the Delaware Emergency Medical Services Oversight Council (DEMSOC) Committee also serves on the steering committee for the National EMS Culture of Safety Strategy Project. The project is a three-year cooperative agreement between the National Highway Traffic Safety Administration (NHTSA), with support from the Health Resources and Services Administration's (HRSA) EMS for Children (EMSC) Program, and the American College of Emergency Physicians (ACEP) and brings together representatives from national EMS and fire organizations to develop a national EMS "Culture of Safety" Strategy. This Strategy is intended to change the status quo and chart a new course that will support the emergence of a culture of safety in EMS.

These efforts, and others yet to come, are all intended to produce one common outcome....when the call is over, everyone goes home.



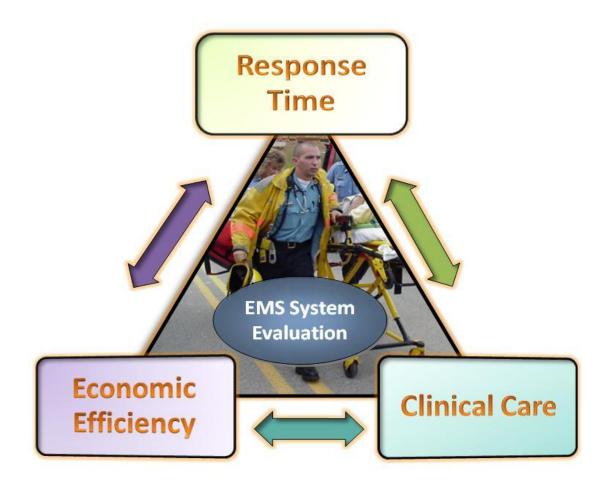
EMS System Evaluation

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System Evaluation

Evaluation is the essential process of assessing the quality and effects of EMS, so that strategies for continuous improvement can be designed and implemented. (National Highway Traffic Safety Administration)

The National Association of Emergency Medical Services Physicians (NAEMSP) has identified three related variables for measuring EMS system performance; clinical performance, response time reliability and economic efficiency. These variables are interdependent for overall system success. Focusing the majority of resources on any one variable is done at the expense of performance potential in the other variables. For example, extreme cost cutting measures will have a detrimental impact on clinical performance and response time reliability. Also, if a system places all of its efforts on response time performance there will be a significant increase in costs as well as a decrease in clinical performance.



Prehospital Patient Care Report

In Delaware, data from the electronic EMS Data Information Network (EDIN) is largely used to evaluate the EMS system. EDIN collects EMS report data electronically on a real-time basis and provides administrators with a resource management and research tool. The EDIN system collects, at minimum, over 130 data points covering the demographic assessment and treatment phases of an EMS incident. The EDIN system has been online since January 1, 2000. Since its inception, over one million records have been entered into the system. Currently, all of the Advanced Life Support agencies in Delaware are using the system on a full-time basis. Of the 58 volunteer Basic Life Support agencies, almost all are using the system on either a full time or partial basis. This allows DEMSOC a continued review of operational and clinical data for the ALS and BLS providers.

Update On New Prehospital Patient Care Reporting System:

After many years of work to improve our EMS data collection capabilities, we are pleased to announce that the State of Delaware's Division of Public Health (DPH) & Office of Emergency Medical Services (OEMS) has entered into an agreement with ImageTrend to provide a new statewide electronic patient care reporting (ePCR) system. The new statewide system will be called DEMRS (Delaware Emergency Medical Reporting System).

DEMRS will be a comprehensive PCR producing data system which provides convenient access to the field providers for input of pertinent patient data in a timely fashion while concurrently standardizing EMS service provider data into a statewide data collection and reporting system. DEMRS will provide services to all private/public/volunteer EMS/ALS/BLS services including but not limited to 1st responders volunteer/paid fire companies, county ALS, paramedics, Trooper medic, AI DuPont, Wilmington Hospital, St Francis Hospital, Christiana Hospital, Beebe Hospital, Nanticoke Hospital, Milford Hospital, Kent General, billing companies & interfacility transport services.

OEMS is targeting a March 2013 implementation of DEMRS. Once DEMRS goes live, we will be retiring EDIN from day to day use, but will maintain access to its data for reference and reporting purposes



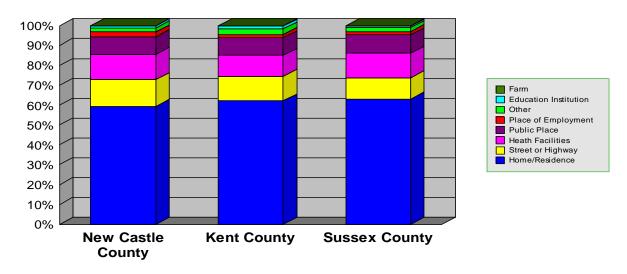
Clinical Performance

EMS systems were originally developed to reduce fatalities from traumatic injuries, especially from motor vehicle crashes. It was noticed during military conflicts that patients had better outcomes when injuries were quickly stabilized in the field and the patient was then transported to a care center. The original EMS system mimicked this with the vast majority of the emphases placed on traumatic injuries. As the science and practices of prehospital care progressed over the years, so did the scope of the EMS provider. The evolution of evidence based practices with cutting edge technologies work in tandem to improve the clinical outcome for all types of patients. The EMS system is inclusive of many different disciplines; trauma, cardiac care, medical care, pediatric care, medical transportation, public health and domestic preparedness just to highlight a few.

EMS provides care to those with perceived emergency needs and, when indicated, provides transportation to, from, and between health care facilities. Mobility and immediate availability to the entire population distinguish EMS from other components of the health care system (National Highway Traffic Safety Administration).

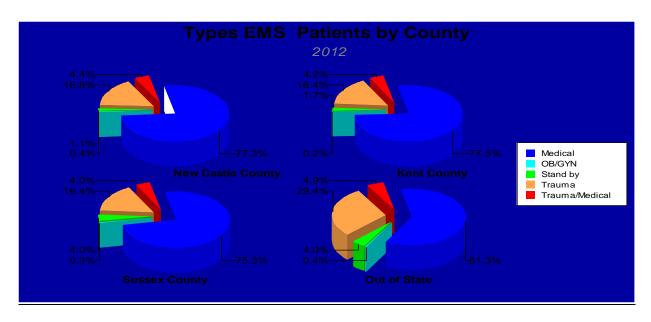
(All data used for this section and throughout the report were, unless noted otherwise, extrapolated from the EMS Data Information Network (EDIN). Please note for this report, Advanced Life Support (ALS) and BLS data are reported separately. While reading this report please do not combine the ALS and BLS data. Doing so would lead to inaccurate totals.)

EMS Usage by Location Type-2012



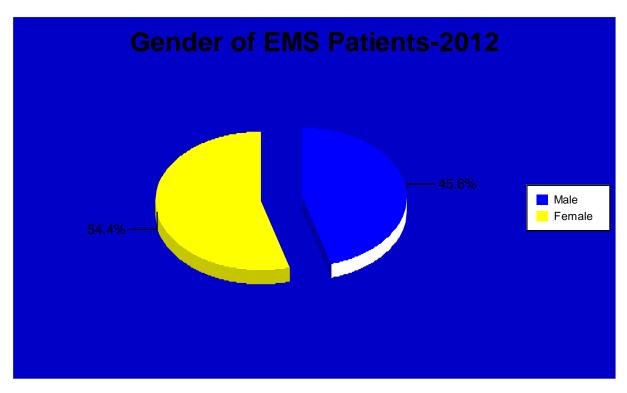
EMS usage by location type:

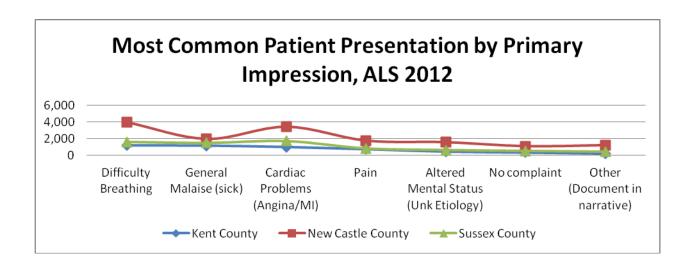
These graphs show the location of EMS calls which is helpful in designing dispatch protocols, developing operational systems to assist EMS providers in the rapid location of patients and to develop programs to reach critically ill and injured patients as quickly as possible with life saving treatments of which the Automatic Defibrillator program is an example.



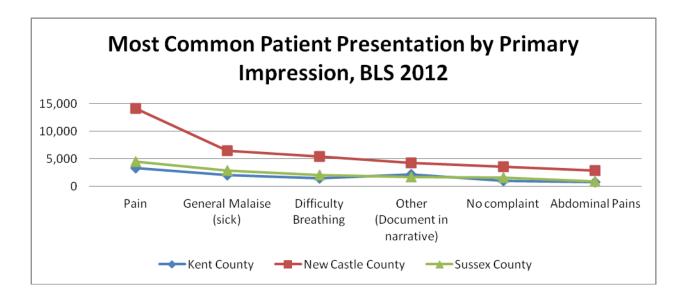
Types of patients

- Medical patients are those individuals who are suffering from a condition such as chest pain, heart attacks, respiratory problems, altered mental status, seizures, strokes and infectious disease.
- OB/GYN refers to pregnancy and female related medical conditions.
- Trauma patients are those who suffer an injury caused by a transfer of energy from some external source to the human body such as motor vehicle crashes, gunshot wounds, stabbings, industrial accidents and falls.
- Trauma/Medical patients often include patients who had a medical condition that caused them to suffer a trauma such as an episode of syncope, related to a heart problem that caused the patient to fall, suffering a serious head injury.
- Standby is when EMS personnel wait in readiness, typically at large scale events such as marathons or concerts.

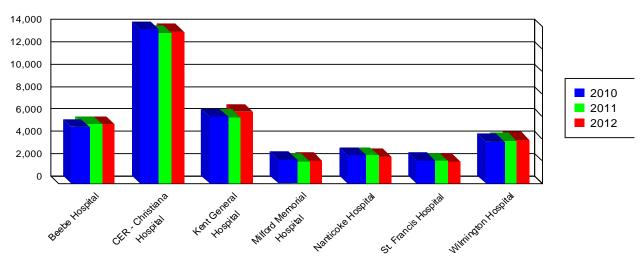




Primary Impression is the EMS provider's evaluation of the patient based on: signs, symptoms, patient's chief complaint and other factors. These graphs do not take into account the type of patient (medical, trauma). The primary impression of other is defined in the patient narrative and not able to query.

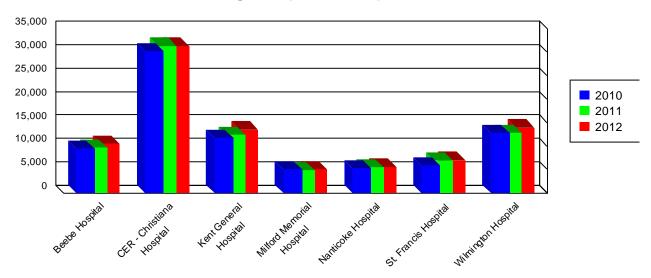


ALS Receiving Hospital Comparisons 2010-2012



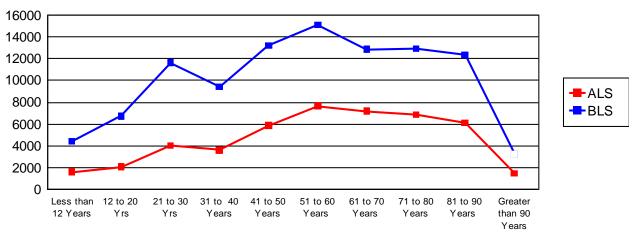
Note: Both ALS and BLS charts are based on the total number of patients transported by the specific EMS service. BLS responds to more patient runs and therefore transports more patients to the hospital. This is noted on the right hand side of each chart contained on this page.

BLS Receiving Hospital Comparisons 2010-2012



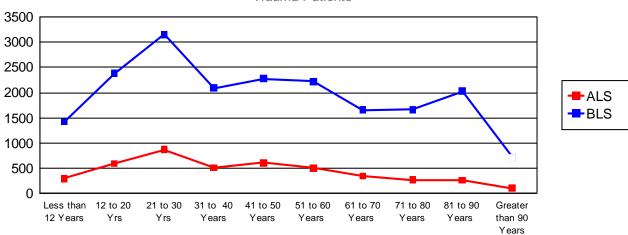
ALS and BLS Patient Age Comparison-2012

All Patients



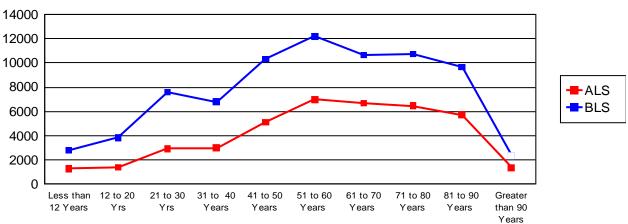
ALS and BLS Patient Age Comparison-2012

Trauma Patients

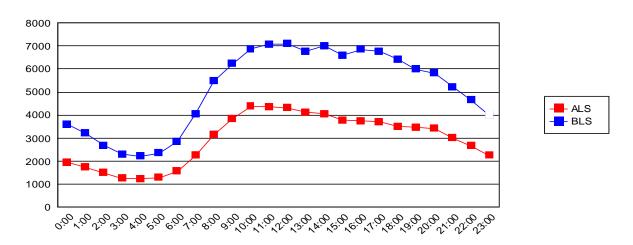


ALS and BLS Patient Age Comparison-2012

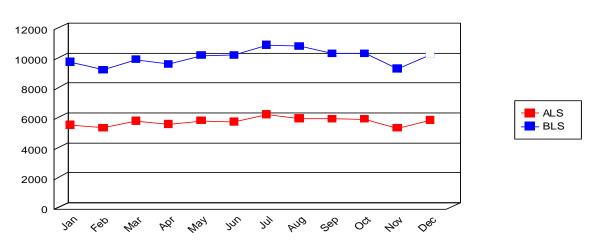
Medical Patients



Time of Day When EMS Incidents Occur-2012



ALS/BLS Incidents by Month-2012





Response Time Performance

The Delaware EMS system measures response time performance in fractiles. Fractile response refers to how the response time is measured against an established performance goal. For example, if a response goal is 8 minutes, the fractile response time is a percentage of the responses within that 8 minute goal. A 90% fractile response indicates that 90% of the time the response time was within 8 minutes or less. Numerous factors affect response time performance including geography, baseline resource availability, call volume and deployment strategies.

The response time goals for the Delaware EMS system adopted by the EMS Improvement Committee are based on cardiac arrest survival research. These response goals are nationally recognized and citied by both NFPA (1710) and the American Ambulance Association guidelines. It is recognized that these are ideal goals. Response time performance measure is one of several performance goals and is not a single predictor of the health or success of an EMS system.

The performance goals for Delaware's EMS System recognizes that not all emergencies are life threatening and do not require maximum resource response. The Emergency Medical Dispatch system is a systematic approach (protocol) that assists dispatchers in identifying which 911 calls require maximum response, and identifies calls as:

Alpha – Requires a BLS response. Example is a minor burn.

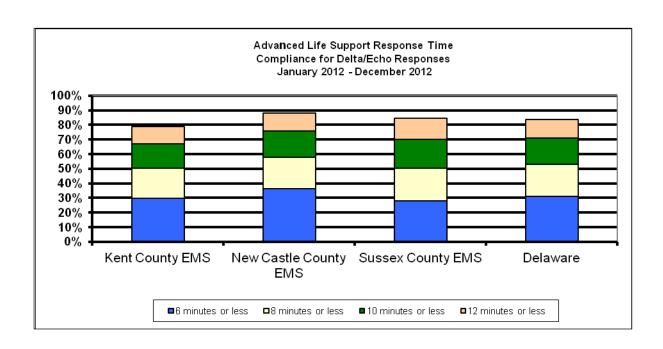
Bravo – Requires a BLS response. Example is with unknown patient status.

Charlie – Requires ALS and BLS response. Example is burns with difficulty breathing.

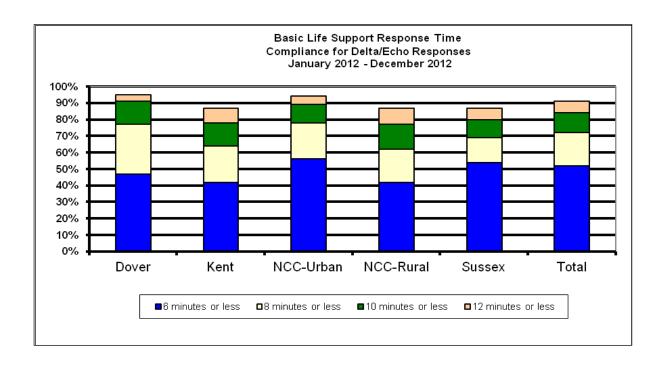
Delta – Requires ALS and BLS response. Example is an unconscious burn victim.

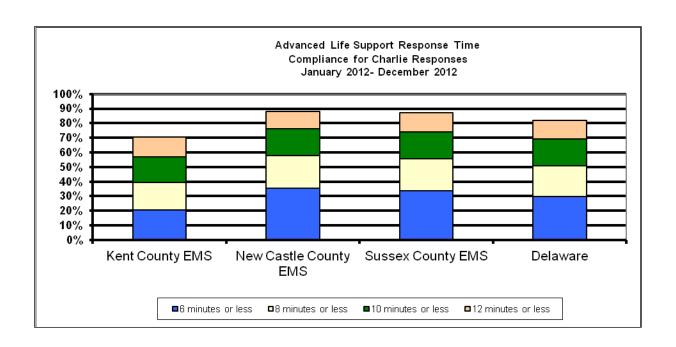
Echo – Response type not addressed in the legislated response time goals, but it requires a maximum response to include available first responders. Example would be a cardiac arrest.

Omega – Response type not addressed in the legislated response time goals. An example of an Omega response is a dispatcher, while remaining online with the caller, connects to a poison control center for instructions.

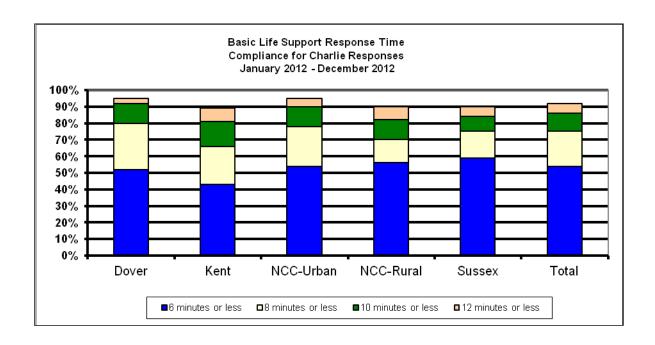


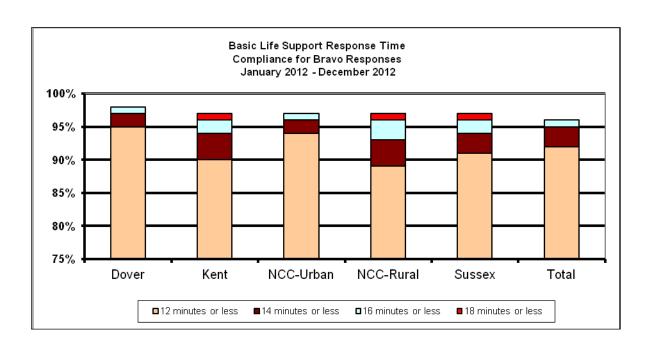
Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Delta calls on at least 90% of the time. BLS ambulance unit on scene within 10 minutes of the receipt of Delta calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



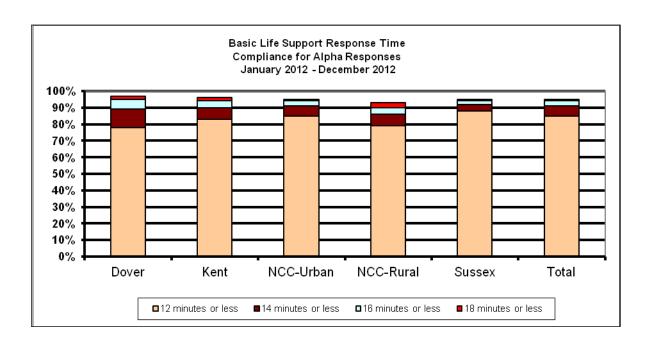


Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Charlie calls on at least 90% of the time. BLS ambulance unit on scene within 12 minutes of the receipt of Charlie calls on at least 90% of the times in urban areas and 70% of the times in rural areas.





Goal: BLS ambulance unit on scene within 12 minutes of the receipt of Bravo calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



Estimate of EMS System Cost

One important factor in evaluating the efficiency of an EMS system is measured in terms of cost. Delaware continues to refine the process to accurately reflect total EMS system costs. The Basic Life Support (BLS) Financial form was developed and distributed to all agencies starting in 2002. Additionally, all 911 centers, involving EMS dispatch, have submitted the costs to run their centers during 2011.

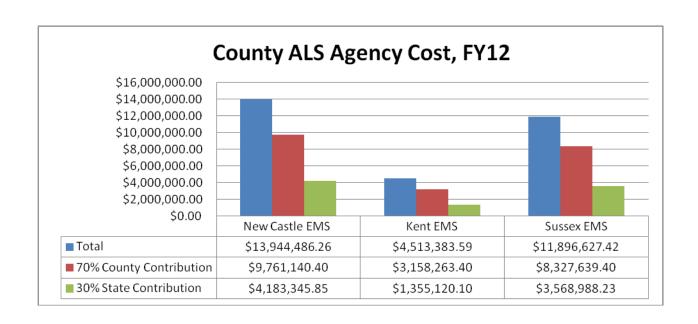
House Bill 332 outlines the requirement for EMS agencies to report cost. "All components of the EMS system should report revenues and expenses so that the system can be continually evaluated for its cost effectiveness. Members of the General Assembly, the Governor, the public and other policy makers should know the costs of Delaware's EMS system in order to measure its effectiveness".

Basic Life Support (BLS) Program Cost

"The Delaware State Fire Prevention Commission recognizes the importance of collecting and providing financial information with designated agencies. With the adoption of the current Ambulance Service Regulations this requirement remains an important part of the data reporting requirements". The Delaware State Fire Prevention Commission in conjunction with the Delaware Volunteer Firefighters Association (DVFA) has created a new streamlined financial reporting tool. This tool has been released to all Delaware agencies. Updated financial information will be included in next year's report.

~David J. Roberts, Chairman Delaware State Fire Prevention Commission







Aviation and Dispatch Center Cost

Delaware State Police Aviation:

Total Costs: \$2,700,000.00

Personnel: \$1,750,000.00

Helicopter Maintenance: \$700,000.00

Fuel Costs: \$250,000.00

Medical Supplies (Approx.): \$100,000.00

Dispatch Centers

New Castle County 911 Center (Fire/EMS Only):

Total Costs:

Personnel: \$4,762,621.00

Equipment: \$5,000.00

Training: \$14,830.00

\$4,782,451.00

Kent County 911 Center:

Total Costs: \$1,917,600.00

Personnel: \$1,769,100.00 Equipment: \$140,100.00

Training: \$8,400.00

Sussex County 911 Center:

Total Costs: \$1,953,737.00

Personnel: \$1,705,267.00 Equipment: \$160,600.00 Training: \$44,550.00

Seaford 911 Center:

Total Costs: \$557,626.00

Personnel: \$545,126.00 Equipment: \$10,800.00

Training: \$1,700.00

Rehoboth 911 Center:

Total Costs: \$470,826.00

Personnel: \$439,220.00 Operational: \$27,117.00

Training: \$4,490.00

Specialty Care

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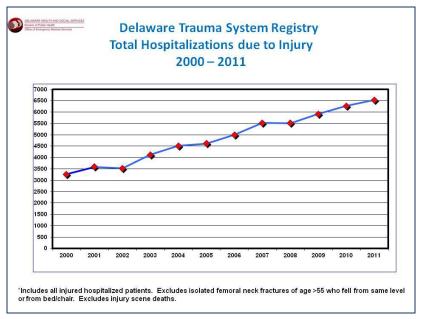
Delaware Statewide Trauma System

Introduction

Unintentional injury continues to be the #1 killer and disabler of Delawareans aged 1 to 44 years, and is among the ten leading causes of death for the remaining ages of 45 years and older. Intentional injury, a separate category, is also among the leading causes of death in the 1 to 44 year group. Unintentional injuries, homicide, and suicide accounted for 67% of all deaths to Delaware children and teens in the period 2006-2010, an increase of 2.6% from the previous 5-year timeframe. (Delaware Health Statistics Center. Delaware Vital Statistics Annual Report, 2010, Delaware Department of Health and Social Services, Division of Public Health: 2013).

Unintentional injuries include those caused by highway crashes involving motor vehicles, bicycles or pedestrians, by falls, and by farm and industrial mishaps. Intentional injury adds assaults, shootings, stabbings, and suicides to the above statistics. Trauma System Registry records show that **6,547** citizens and visitors to Delaware were injured seriously enough to require hospitalization in Delaware hospitals in 2011 and of these, **194** sustained fatal injuries. In addition, another **78** people were killed immediately in Delaware traumatic incidents in 2011. Because trauma so often involves children and young people, it is responsible for the loss of more years of life than any other cause of death, both nationally and in Delaware. It robs us of our most precious resource, our youth.

As seen below, the number of injuries serious enough to require hospitalization continues to rise in Delaware. Our Trauma System is caring for more patients each year. More resources are needed to maintain the same level of optimal care for the rising number of injured in our state.

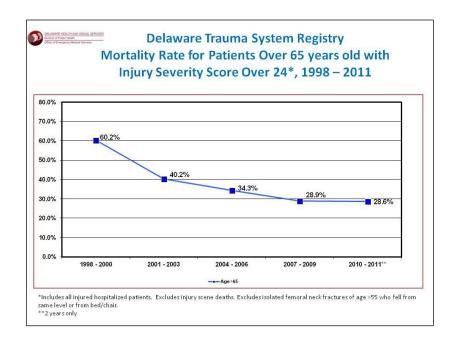


Traumatic injury can occur at any time. It can happen to anyone. Those with critical injuries need to receive definitive care within a short period of time in order to minimize the risk of death and disability. The role of a Trauma System is to organize resources and assure their immediate availability to the injured at all times and in all geographic areas of the system. These resources

include 911 Emergency Communications Centers, Basic and Advanced prehospital providers, multidisciplinary trauma teams in hospital emergency departments, and in-hospital resources such as operating rooms and intensive care units. Research has shown that the coordination of these resources which takes place as a Trauma System develops can result in dramatic reductions, up to 50%, in preventable deaths due to injury (Mann NC, Mullins RJ, MacKenzie EJ, et al. Systematic review of published evidence regarding trauma system effectiveness. *J Trauma*. 1999;47(3 suppl):S25-S33).

June 30, 2012 marked the 16th anniversary of the passage of legislation creating Delaware's Statewide Trauma System. The passage of this enabling legislation was the first step in systematically improving the care provided to the injured of our state. Today's Delaware Trauma System is comprised of a network of professionals who work together to ensure that trauma patients receive the appropriate emergency medical care for their injuries. The success of the statewide Trauma System is the result of much hard work by many people and agencies, led by the Division of Public Health (DPH) Office of Emergency Medical Services (OEMS). OEMS is the lead agency and provides oversight of the Trauma System, from the time a traumatic incident occurs through the full continuum of care. With the guidance of OEMS and the dedication of many individuals statewide, Delaware has developed one of the nation's few truly inclusive statewide Trauma Systems, in which every acute care hospital participates in the Trauma System and has met the standards for state designation as a Trauma Center or Trauma System Participating Hospital. Most importantly, this means that no matter where in the state people are injured, they enter a system of care that follows the same guidelines, regulations, and standards and makes sure they are cared for in the facility best able to manage their injuries. Since July 1996, over 77,000 people have been cared for by Delaware's Trauma System.

As shown below, the mortality rate of the most seriously injured older patients has dramatically decreased as our Trauma System has matured.



Delaware's Trauma System regulations are based on the guidelines of the American College of Surgeons' Committee on Trauma (ACS COT). ACS review teams visit each Level 1, 2, and 3 Trauma Center and report to the Division of Public Health on the facility's compliance with the Trauma Center Standards before a hospital can be designated as a Delaware Trauma Center. Reviews must be successfully completed every three years in order for a hospital to retain its state Trauma Center designation status. Trauma System Participating Hospitals are reviewed every three years by an out-of-state physician consultant and Division of Public Health staff.

Current Trauma Center and Trauma System Participating Hospital designations are:

REGIONAL LEVEL 1 TRAUMA CENTER:

• Christiana Hospital, Christiana Care Health Services

A Regional Resource Trauma Center has the capability of providing leadership and comprehensive, definitive care for every aspect of injury from prevention through rehabilitation. It also serves as the lead Trauma Center for the Trauma System.

PEDIATRIC REGIONAL LEVEL 1 TRAUMA CENTER:

• Nemours / Alfred I duPont Hospital for Children (provisional state designation)

A Pediatric Regional Resource Trauma Center has the capability of providing leadership and comprehensive, definitive pediatric trauma care for the most severely injured children within its geographic area. It assumes a leadership role in the care for injured children within its local, regional, and statewide Trauma Systems.

COMMUNITY LEVEL 3 TRAUMA CENTERS:

- Beebe Medical Center
- Kent General Hospital, Bayhealth Medical Center
- Milford Memorial Hospital, Bayhealth Medical Center
- Nanticoke Memorial Hospital
- Peninsula Regional Medical Center (Salisbury Maryland) via reciprocity

A Community Trauma Center is capable of providing assessment, resuscitation, stabilization, and triage for all trauma patients, arranging for timely transfer of those patients requiring the additional resources of a Regional Trauma or Specialty Center, and delivering definitive care to those whose needs match the resources of this facility. *Reciprocity* means that Delaware's Division of Public Health has accepted the Trauma Center designation conferred by Maryland.

PARTICIPATING TRAUMA SYSTEM HOSPITALS:

- St. Francis Hospital
- Wilmington Hospital, Christiana Care Health Services

A Participating Hospital is an acute care facility that may receive, usually by private vehicle, moderately or even severely injured trauma patients. Participating Hospitals quickly identify and transfer patients with significant injuries to a Trauma Center after initial resuscitation. When necessary, this facility may provide care to trauma patients with minor injuries. Participating Hospitals contribute data to the Delaware Trauma System Registry and Quality Improvement

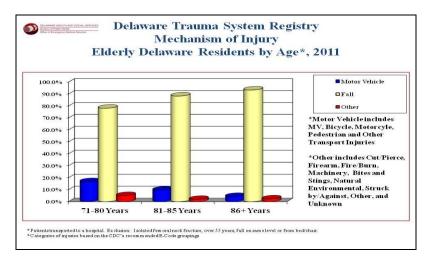
Program. They do not receive ambulance patients meeting the Prehospital Trauma Triage Scheme criteria.

2012 Accomplishments

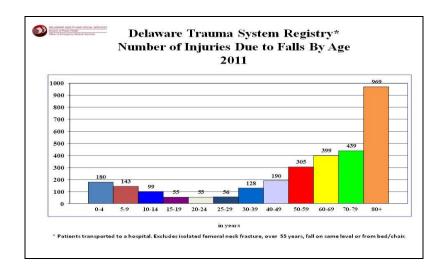
Delaware Trauma System Registry

Data submitted by all eight Delaware acute care hospitals is compiled into the Trauma System Registry. Hospital Trauma Registrars gather data from prehospital tripsheets and hospital medical records to enter into the trauma registry software program. They submit data on a quarterly basis to the OEMS Trauma System Coordinator. System reports are then generated on various topics, including types, locations, and persons involved in trauma occurring throughout the state, as well as Trauma System quality parameters.

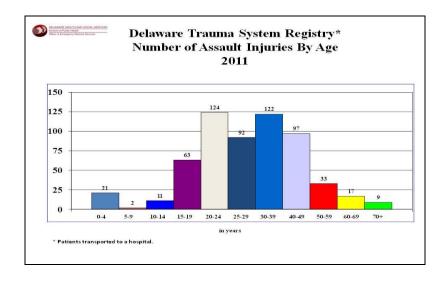
Trauma in the elderly is a significant health problem. Injuries are a leading cause of hospitalization, long-term care placement, and death in the elderly. As shown in this graph, falls are the number one cause of injury in the elderly by far.



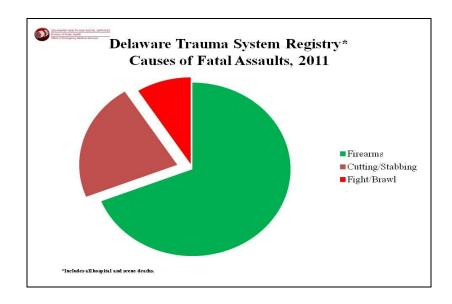
The following graph shows the age distribution of fall injuries seen in Delaware Trauma System hospitals. Despite the high incidence of fall injuries, the mortality rate for seriously injured seniors has fallen in Delaware, see earlier graph.



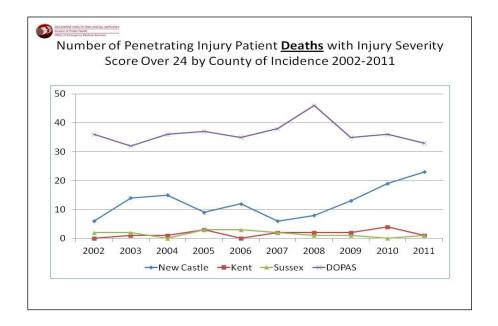
Violent injuries are also an increasing problem in Delaware. The graph below illustrates the breakdown by age on assaults that caused injuries requiring hospitalization in Delaware in 2011.



The graph below illustrates the types of assaults resulting in death in Delaware in 2011.



The graph on the following page shows the location by county of incident of serious penetrating injuries that resulted in death. The DOPA (Dead on Paramedic Arrival) patients are those who were not transported to a hospital. Penetrating trauma in Delaware's cities is an increasing public health problem.



2012 Challenges

1. Financial support for the Trauma System

Funding support for our Trauma System continues to be a challenge. This issue has never been pursued to the legislative level. While Delaware hospitals have to date been motivated to "do the right thing for their communities", they are facing the same financial challenges as Trauma Centers across the country, increasing patient volumes (as shown

in the Introduction graph), managed care, lifestyle preferences of physicians that do not wish to take trauma call, malpractice insurance costs, uncompensated care, and expectations of increasing numbers of physicians for payment to participate in trauma programs. Some Delaware Trauma Centers are finding a source of reimbursement through billing for trauma activations and substance abuse Screening and Brief Intervention programs. A Legislative Team has been formed by the hospital representatives on the Trauma System Committee to look more closely at this issue.

2. Further development of the Trauma System Quality Program

The Trauma System Quality Program is also an ongoing process. Trauma System Registry data from all hospitals support both the Quality and Injury Prevention programs. Volume indicators are well developed and reported annually. Sentinel cases are discussed at the Trauma System Quality Evaluation (QE) Committee meetings and System issues as well as educational opportunities are identified.

Some quality filters that are monitored include:

- o Patients with Glasgow Coma Score less than 15 and Injury Severity Score over 24 who are not transferred to a facility with neurosurgical capabilities
- o Initial Emergency Department (ED) length of stay
- Interfacility transport times
- o Undertriage (patients meeting triage criteria without a trauma activation)
- Mortality rate by Injury Severity Score
- o Patients transferred out immediately following surgery in the initial facility
- Double acute care transfers
- o ED deaths of patients transferred to a higher level of care
- o Patients transferred directly from Operating Room to Operating Room
- o Surgical airways in the field
- o Patients transferred with blood running
- Patients that bypass other Trauma Centers and go directly to the Level 1
 Trauma Center from the scene (over triage)
- o Delays in transfer leading to adverse outcome
- o Missed prehospital triage leading to adverse outcome

Summary

Supporting the statewide Trauma System and its injury prevention programs as part of the state's economic responsibility will yield a substantial return through decreased injury-related deaths and permanent disabilities with loss of productivity. This will result in a healthier and safer Delaware. Delaware's Statewide Trauma System continues to mature, with the same goal it has had since it was born......saving lives.

Emergency Medical Services for Children



Introduction

The Emergency Medical Services for Children (EMSC) program is a national initiative designed to reduce morbidity and mortality in children due to life-threatening illness and injuries. In 1984 this federal legislation (Public Law 98.555) was enacted to fund EMSC programs in the states to address the emergency care of children. The Health Resources and Services Administration (HRSA) provides EMSC grant money to help develop emergency medical services for critically ill and injured children by improving existing EMS systems. This is the only federal program that focuses specifically on the quality of children's emergency care.

Delaware was awarded its first EMSC grant through HRSA's Maternal and Child Health Bureau in 1997. The Delaware EMSC program has been administered through the State Office of EMS via a contract with the Nemours Foundation /Alfred I. duPont Hospital for Children (N/AIDHC). The Delaware EMSC program works to maintain a high quality emergency care system that provides optimal care for ill and injured children. It evaluates the EMSC Performance Measures as directed by the federal program. These Performance Measures include:

- •online and offline medical direction/control available 24/7
- •ambulances with essential pediatric equipment
- •pediatric training and education for prehospital providers
- •hospitals ready to treat and stabilize pediatric patients
- •hospital transfer agreements and guidelines in place to safely transfer pediatric patients
- •hospitals recognized based on the level of pediatric emergency care standards met

The Delaware EMSC Advisory Committee is chaired by a pediatrician who advises and represents the EMSC program on the Delaware Emergency Medical Services Oversight Council (DEMSOC). EMSC promotes the medical home concept, encourages cultural diversity and cultural competency in the healthcare workforce, and plans methods of integration of EMSC priorities into statutes and regulations.

In 2006, there were an estimated 26.3 million hospital Emergency Department (ED) visits by persons under the age of 18 in the United States. Pediatric visits accounted for 22.1 percent of all ED visits. Twenty nine percent of emergency pediatric visits occurred in children's hospitals and those with Pediatric Intensive Care Units (PICU's), while an equal 29% occurred in hospitals that either did not admit children or had no separate pediatric ward. (National Health Statistics Report 2012, Number 47, March 2012. Availability of Pediatric Services and Equipment in Emergency Departments: United States, 2006 by Susan M.Schappert, M.A., and Farida Bhuiya, M.P.H. Division of Health Care Statistics, http://www.cdc.gov/nchs/data/nhsr/nhsr047.pdf)

Marianne Gauche-Hill, MD, FACEP, FAP stated the following key facts in the official newsmagazine of the American Association of Pediatrics (AAP), volume 30, number 11, November 2009, www.aapnews.org:

•24 million pediatric visits to ED's occur each year

- •90 % of these visits are to community ED's
- •50% of these ED's see fewer than 10 children a day

In addition, medication errors are common in the pediatric population and further efforts are needed to reduce them (Kaushal R, Bates DW, Landrigan C, et al. *Medication Errors and Adverse Drug Events in Pediatric Inpatients*. <u>JAMA</u>. 2001;285(16):2114-2120). All ED's must have the staff, policies, equipment, and supplies in place to care for children. Children respond differently than adults to illness and injury. They have unique physical, emotional and physiological needs that require a specialized approach to care.

The following tables provide information about Delaware's pediatric population.

2011 Delaware Population Figures

		<u> </u>	
	2011 Total	Age 0-19	% Age 0-19
Delaware	909,833	233,490	25.7%
New Castle	542,308	143,346	26.4%
Wilmington	70,725	19,875	28.1%
Kent	165,299	46,002	27.8%
Sussex	202,226	44,152	21.8%

Delaware Population Consortium, Population Projection Series, Version 2011.0 http://www.ccrs.udel.edu/sites/ccrs.udel.edu/files/KC_FactBook_2012.pdf

2012 Delaware and USA Population Comparisons

	Delaware	USA
Population	917,092	313,914,040
(2012 Estimate)		
Persons under 5 years	6.1%	6.5 %
Persons under 18 years	22.6%	23.7 %

2012 estimate, Delaware Quick Facts from the Census Bureau http://quickfacts.census.gov/qfd/states/10000.html

Unintentional injuries remain the leading cause of death for Delaware's children. During 2005-2009, the most recent period for which data is available, unintentional injuries caused 43.3% of deaths in those between the ages of 1 and 19 years. Homicide (13.8%), cancer (9%), and suicide (7.3%) were the next most frequent causes. (*Delaware Vital Statistics Annual Report, 2009*, Delaware Health Statistics Center, Delaware Department of Health and Social Services, Division of Public Health: 2011.)

The most frequent reasons for children's hospitalizations in Delaware in 2009 were bronchitis, other perinatal conditions (including respiratory conditions, infections, and conditions involving temperature regulation) and pneumonia in those under 1 year of age, and asthma, pneumonia and fluid and electrolyte disorders for those ages 1-17 years. (*Delaware Hospital Discharge Report 2009*, Delaware Health Statistics Center, page 8)

The percentage of Special Health Care Needs children in Delaware, 17.5%, is higher than the national average of 15.1%. (2009 / 2010 National Survey of Children with Special Health Care Needs http://www.childhealthdata.org/learn/NS-CSHCN)

2012 Accomplishments

In 2012, the State EMSC Advisory Committee and EMSC Program focused on the following activities:

Emergency Medical Services for Children Act of 2012

The Emergency Medical Services for Children Act of 2012 was passed to support the EMSC program. House Bill 315 was introduced and registered on 5/1/2012 in the 146th General Assembly of the House of Representatives, as "An act to amend Title 16 of the Delaware Code relating to Emergency Medical Services Systems". The House of Representatives and Senate passed the bill on June 30, 2012, and it was signed by the Governor on July 12, 2012. This EMSC Act of 2012 establishes the Emergency Medical Services for Children Program within the Office of Emergency Medical Services and places the EMSC Advisory Committee Chair on DEMSOC as a full voting member. It defines the members of the EMSC Advisory Committee, provides peer review protection for the Pediatric System Quality Performance Improvement program, and lists the responsibilities of the EMSC Program.

 $\label{lem:http://legis.delaware.gov/LIS/LIS146.NSF/vwlegislation/F97E4CBB3F495669852579CE005B180E?open)$

The EMSC Advisory Committee Chair

The EMSC Advisory Committee has a new Chairperson, Maria Carmen G. Diaz, MD, FAAP, FACEP. Dr. Diaz is also the new pediatric representative to DEMSOC. She is a Clinical Associate Professor of Pediatrics and Emergency Medicine at Jefferson Medical College. Dr. Diaz is also the Medical Director of Simulation and an Attending Physician in the Division of Emergency Medicine, Nemours/AIDHC, in Wilmington. Simulation is a hands-on educational modality that acts as a bridge between classroom learning and real-life clinical experience. Since 2011, Dr. Diaz has taught three different Pediatric Emergency Medicine Skills Courses - one for Emergency Physicians, one for Pediatricians, and one for first Year Pediatric Emergency Medicine Fellows. This year, Dr. Diaz will add a course for RNs, one for Physician Assistants and Advanced Practice Nurses, one for EMS personnel, and one for transport team personnel. Dr. Diaz is also the Coordinator of resident rotation through the Emergency Department and is an active member of the N/AIDHC's Trauma Committee. Her experience in providing pediatric training and education will be a valuable asset to support, improve and sustain the Pediatric Emergency Care Facility Recognition (PECF) program. Dr. Diaz presides at EMSC Advisory Committee meetings and performs related administrative duties. She also sustains a system wide perspective and inspires open dialogue. She exercises a collaborative approach toward committee members and Division of Public Health/Office of Emergency Medical Services leadership.

The Pediatric System and Pediatric Emergency Care Facility (PECF) Recognition Program
The EMSC program has completed the initial phase of development of the new Statewide
Pediatric System through recognition of Delaware's hospitals in the PECF Recognition program.
The recognition program is based upon state-defined criteria based on national guidelines that
address the qualifications of providers of pediatric care, the availability of pediatric equipment
and policies, and development of a formal pediatric quality improvement program. Every

Delaware acute care hospital that treats children voluntarily chose to participate in this program, making Delaware one of only a handful of states with an inclusive Pediatric System. The Delaware hospitals are recognized as PECF Level I-III, with one Level 1, one Level 2, and six Level 3 recognized facilities in the System. In 2012, all eight hospitals submitted their Pediatric Plans under the PECF Recognition program. The Pediatric Plans are being reviewed, and the recommendations and the action plans developed will further improve pediatric emergency care in our state. The expectation is that the Pediatric System developed through the PECF Recognition program will assist in reducing the morbidity and mortality rate of children in Delaware over time. The Delaware EMSC program presented a poster describing the recognition process at the annual EMSC Grantee meeting on May 9 and 10, 2012 in Bethesda, Maryland.

EMSC Targeted Issue Research Grant – 'Evaluation of a Pediatric Emergency Care Recognition Program on Care of Injured Children'

Delaware is serving as the model for an EMSC Targeted Issue research grant investigating the impact of implementation of the Pediatric System on emergency care for children. The research is comparing the PECF recognized hospital emergency care of Delaware with non-recognized hospitals in a region of North Carolina. Both areas have mature Trauma Systems in place. The research project is continuing with phase three data collection at this time. EMSC is looking forward to the analysis of the data collected. Delaware EMSC is proud that the national EMSC program has recognized Delaware's successful Pediatric System and hopes that other states may learn from Delaware's Pediatric System.

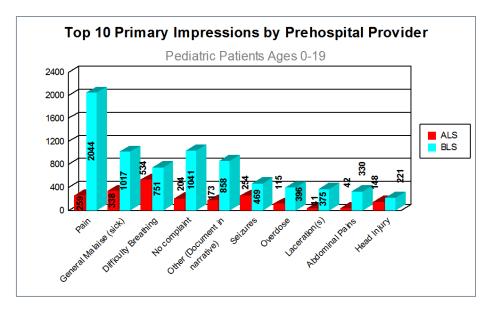
Annual Childhood Injury Prevention Conference

The Delaware EMSC program partnered with Safe Kids Delaware to provide a conference on June 19, 2012, in Dover. The following presentations were the highpoints of the interactive conference.

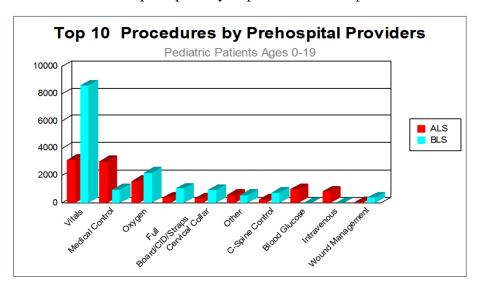
- •"Bullying and Violence" by Julie Hubbard, PhD, Department of Psychology, University of Delaware.
- •"5-2-1 Almost None, Strategies for Healthy Eating and Physical Activity" by Milton Delgado, Ed. D, MBA, N/AIDHC Health and Prevention Services.
- •"Injury Prevention in the 21st Century" by Deena Brecher, MSN, RN, APRN, N/AIDHC.
- "Playing It Safe Outside" by Jean Schappet, Co-Founder and Trainer, and assisted by Patty Stine, Pure Play Workshops, La Plata, MD.
- "Aquatic Safety" by Jennifer Whaley, RN, CCRN, Trauma Program Manager, Beebe Medical Center.

About 100 injury prevention advocates from across the state attended. The Honorable Matthew Denn, Lieutenant Governor, highlighted the importance of injury prevention for children at the conference. The Lt. Governor is also the Honorary Chair of Safe Kids Delaware. Speakers were very knowledgeable and presentations were superb.

The following EDIN (EMS Data Information Network) graphs describe children through age 19 years who were transported by a Delaware ambulance.

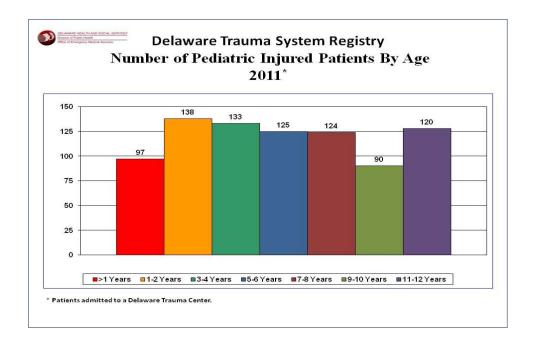


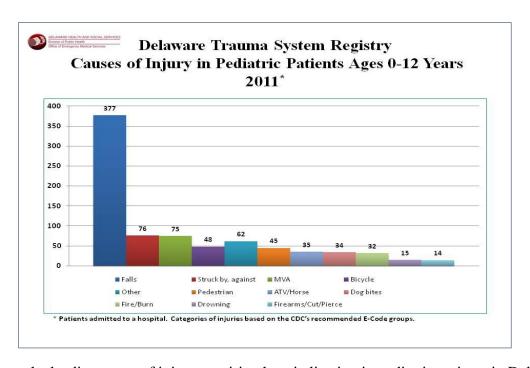
Pain is the most frequent primary impression of the BLS providers, while difficulty breathing is the most frequent primary impression of ALS providers.



Vital signs are the most frequent procedures performed by both BLS and ALS providers.

The following Delaware Trauma System Registry graphs describe children through age 12 years who were admitted to a Delaware hospital for an injury.





Falls were the leading cause of injury requiring hospitalization in pediatric patients in Delaware.

2012 Challenges and Goals

National Pediatric Readiness Project

Delaware hospitals will participate in the National Pediatric Readiness Project beginning in May 2013. All assessments should be completed by July 2013. The purpose of this national project is to improve disaster preparedness for children nationwide.

http://www.pediatricreadiness.org/State_Results/Delaware.aspx

The majority of parents seek care for their children at the nearest ED. It is critical that all EDs have the necessary resources and knowledgeable staff to provide optimal emergency care for children. Participating hospitals will receive immediate feedback to the online survey, a pediatric readiness score, and a gap analysis based on nationally recommended guidelines. (*Joint Policy Statement: Guidelines for the Care of Children in the Emergency Department*, Pediatrics, October 2009 and Annals of Emergency Medicine, October 2009). The gap analysis will cover administration/coordination, staffing, quality and performance improvement, patient safety, policies and procedures, and equipment/supplies. Using the analysis, the hospitals will develop an individualized performance improvement plan. The national EMSC Program, American Association of Pediatrics, American College of Emergency Physicians, Emergency Nurses Association, EMS for Children National Resource Center, and the National EMSC Data Analysis Resource Center are working together to complete the project.

The EMSC Performance Measures Needs Assessments

The EMSC grant requires a focus on assessment of national Performance Measures. Two needs assessments are required to be conducted during the four-year grant period, in years one and three. Plans to collect data on availability of pediatric ambulance equipment are being developed (August-October 2013). The supplemental budget of 2011 and the carryover budget of 2012 were used to purchase ambulance equipment, based on the 2010-2011 EMSC survey responses. The survey and data analysis are useful to identify gaps in availability of essential pediatric equipment for ambulances. It is vitally important that every prehospital agency participates in the assessments so that the data received is an accurate reflection of Delaware's current status.

Summary

Delaware EMSC has had successes to be proud of in 2012. The passage of the EMSC Act of 2012, the addition of a pediatric voting member to DEMSOC, and the recognition of all eight acute care hospitals as Pediatric Emergency Care Facilities that form an Inclusive Statewide Pediatric System all play a significant role in improving emergency care for children in our state. The Pediatric System Performance Improvement Program will now be developed to support hospital and prehospital programs by identifying opportunities for improvement and excellence in all areas of pediatric emergency care.

In 2013, we will conduct equipment needs and pediatric readiness assessments, as required by the federal grant, and expand the Special Needs Alert Program. Although EMSC has made great progress over the years, much remains to be done to ensure children consistently receive optimal emergency care. Unintentional injuries remain the leading cause of death for Delaware's children. Through its programs and projects, the EMSC program will continue to aid in reducing death and disability of children in Delaware.

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Cardiovascular Care

Delaware Public Health continues to stress the importance of improving heart health. There is new evidence that the overall heart health of cardiac patients is improving with the increased prescribing of cholesterol lowering medications know as statins. Cholesterol levels have shown improvements in recent national studies with the increased use of these medications. It is estimated that nearly 400,000 sudden cardiac deaths occur each year with nearly 90% of those being OHCA. Heart disease and stroke remain the two most common cardiovascular diseases in Delaware. Cardiovascular disease refers to a multitude of diseases and can be caused by a multitude of medical conditions from hypertension to diabetes. Delaware Public Health continues to educate the citizens of Delaware on ways to improve their heart health. A large majority of these diseases are preventable through public education and awareness. Reducing the risk factors of cardiovascular disease can be accomplished by creating overall health awareness and by emphasizing healthier individual lifestyles. By continuing the emphasis on education and awareness as well as improving treatment the combined efforts of multiple agencies in Delaware will be able to make major contributions in reducing the risk factors associated with cardiovascular disease.

Delaware EMS agencies responded to over 6200 patients with cardiovascular related complaints in 2012. Delaware has been and will continue to be a retiree destination due to the benefits associated with living in Delaware. Delaware, as well as most states, has a native aging population due to the baby boomer generation. Due to these two factors, a large number of Delaware hospitals have expanded their cardiovascular care programs. Delaware EMS systems insure a continuum of care for patients transported by EMS through integration with these hospitals. Recent improvements in cardiac protocols have enabled cardiac patients to be treated quicker and more aggressively to improve patient outcomes.

Stemi/Stroke Specialty Centers

The emergence of specialty treatment centers for active heart attack (STEMI) and stroke patients find their roots in the 2004 and 2010 National Highway Traffic Safety Administration's assessments of Delaware's Emergency Medical System. It was recommended Delaware develop and implement emergency medical care triaged and destination policies as well as protocols for patients requiring transport to specialty care centers. The specialty care centers recommended were ST Elevation Myocardial Infarction (STEMI) and Cerebral – Vascular Attack (CVA) STROKE centers. These specialty care centers continue to research and implement new and innovative treatments for their respective treatment designations.

By continuing to aggressively pursue the development of designated STEMI/STROKE centers, Delaware has five hospitals that are offering full-time emergent PCI (Percutaneous coronary intervention) treatment for STEMI and five hospitals are that are certified by the Joint Accreditation Commission for Health Care Organizations (JACHO) as Primary Stroke Centers.

Hospitals currently designated as STEMI centers are:

- •Christiana Hospital, Newark, DE
- •St. Francis Hospital, Wilmington, DE
- •Kent General Hospital, Dover, DE

- •Beebe Hospital, Lewes, DE
- •Nanticoke Memorial Hospital, Seaford, DE

Hospitals currently JACHO certified as primary stroke centers are:

- •Christiana Hospital, Newark, DE
- •Wilmington hospital, Wilmington, DE
- •St. Francis Hospital, Wilmington, DE
- •Nanticoke Memorial Hospital, Seaford, DE
- •Beebe Hospital, Lewes, DE

Cardiac Alert/Code

Delaware's EMS standards for paramedics treating patients with cardiac related complaints continue to be aggressive and cutting edge. Patients who present with signs and symptoms of acute myocardial infarction AMI/heart attack are treated by rapid 12 lead EKG analyses and recognition of the area of AMI. Time is the critical factor for AMI/heart attack patients. The rapid recognition of AMI/heart attack by paramedics is the first step in a sequence of events which includes rapid notification of the appropriate care facility and rapid transport to the specialized care facility. By using this systematic approach for out of hospital AMI/heart attack related emergencies the interval from time of onset of symptoms to cardiac catheterization has been reduced to an average if less than 60 minutes. The early recognition of AMI often results in complete bypass by the patient of the standard emergency room and directly to the cardiac catherization lab with cardiac intervention times under 20 minutes. By using this systematic approach studies continue to show that patients have a lower mortality rate, less cardiac damage and shorter hospital stays.

Prehospital Protocols

The recent addition of the induced hypothermic protocol for patients resuscitated from cardiac arrest continues to show improvement in patient outcomes. Those patients who do not immediately wake up have been shown to have improved neurological function at discharge when they were hypothermic treated. By using this advanced procedure to cool the brain there is data showing the use of this technique has resulted in better than expected outcomes at discharge.

Stroke

Strokes accounted for 1382 paramedic incidents in 2012. Stroke has a very narrow therapeutic window of only three hours in most cases and an absolute maximum of four and a half hours in the remaining few instances. These patients require the same systematic approach as for AMI/heart attack emergencies. Rapid identification, notifying the appropriate specialty care center and rapid transport to a primary stroke center within the therapeutic window greatly enhances the patient's chances of survival. Statewide stroke treatment continues to evolve with the latest innovations and techniques being implements at the larger stroke centers. These treatment advances will result in better outcomes for Delaware residents with significant improvements.

Since EMS personnel must properly identify the signs and symptoms of stroke and initiate the proper sequence of events EMTs and paramedics play a vital role in stroke management thus enhancing the patient's chances of survival.



First State/First Shock CPR and AED Program



Through state legislation in 1999 the Office of Emergency Medical Services was designated the lead agency for the new "First State, First Shock Program" The establishment of the "First State, First Shock Program" was envisioned by William Stevenson to reduce mortality and morbidity from sudden death cardiac arrest. Funding and support is provided by the Health Fund Advisory Committee.

The availability of Public Access Semi-Automatic External Defibrillators (SAEDs) in locations of high potential for sudden cardiac arrest continues to be the focus of the "First State, First Shock Program". The Police/Fire & EMS first responder agencies currently are sufficiently equipped with SAED's in first responder units.

The Delaware Office of Emergency Medical Services (OEMS) is charged with "Coordinating a statewide effort to promote and implement widespread use of semi-automatic external defibrillators and cardio—pulmonary resuscitation...." (DelCode Title 1, Chap. 97)

Since the beginning of the First State, First Shock program in 1999, the program has been committed to the following goals:

- •Insuring First Responders and police vehicles are SAED equipped, the first responder response capability has been identified as the primary goal nationally
- •Decreasing death and disability in Delaware by decreasing time to defibrillation and CPR in cardiac arrest patients
- •Promoting heart health and early detection of the signs and symptoms of heart attack
- •Increasing public accessibility throughout the state with the continuing efforts to make SAEDs available through the "First State, First Shock Program"
- •Increasing the number of Delawareans trained in Cardio-Pulmonary Resuscitation and SAED use through coordinated training efforts at all levels from churches, schools, first responders and state agency participation
- •Tracking outcome to guide future efforts

The primary goal of the *First state/First Shock* program is to provide quick response and treatment of cardiac arrest victims. Quick response and treatment has been proven to increase survivability of victims of out-of-hospital cardiac arrest. Increasing the availability of Semi-Automatic External Defibrillators by the strategic placement of these devices provides for enhanced accessibility by the general public.

Kev Initiatives For 2012

Continuing the *First State/First Shock* Program in light of severe reductions in funding due to the national recession. OEMS continues to work with program partners to insure that issued SAEDs are functional and to assist with expiring equipment replacement coordination.

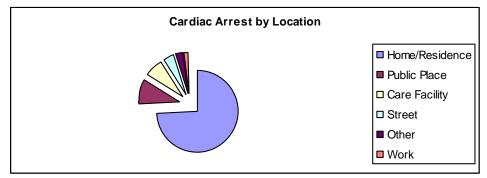
In 2012, the Office of Emergency Medical Services was able to distribute 49 SAED units. Four of the units were issued to police, fire, and rescue agencies. Forty five of the units were distributed to agencies on the waiting list for the Public Access Defibrillation program.

With funding through the Health Fund Advisory Committee and rural grants from the Health Resources Services Administration, the Office of Emergency Medical Services has been able to place over 3000 units in service for public access and police, fire and rescue agencies since 1999.

Major challenges to the First State/First Shock program:

- 1.Funding for the *First State/First Shock* program has been significantly reduced and results in limited SAED placement opportunities. As with any publicly funded program, its existence is at the mercy of state funding priorities. The access to public SAEDs in locations of high potential sudden cardiac arrest, coupled with quick CPR have shown improved survival of these sudden cardiac arrest patients.
- 2.The demand for the replacement of aging SAEDs is a rapidly increasing and ongoing challenge. The elimination of one of the current models in service will have a huge impact in the next several budget cycles. There are over 1500 LP-500 units in service that were distributed by the *First State/First Shock* program. After December 2014 these LP-500 units will no longer be supported by the manufacturer Physio-Control. These units will be obsolete, service will not be available and disposable or expiring supplies availability will be diminished. Delaware State Police currently has 264 of these units in service that will need to be replaced over several future budget cycles at an approximate cost of \$1000 per unit. The majority of the nearly 1300 remaining LP-500 units are currently in service on Volunteer EMS and Fire equipment and serve as the primary response SAEDs to sudden cardiac arrest in local communities.

Cardiac arrest is a primary health issue. Current data shows 71% of all cardiac arrests occur in the home. Strategically placing SAEDs throughout the state and continue providing CPR/SAED training for laypersons and first responders still remains the primary initiative. Replacing aging SAEDs with new models will be the focus of the future SAED program.



Prior to the placement of SAEDs the prognosis for cardiac arrest victims was poor with an estimated 1% to 5% with return of spontaneous circulation. For victims of cardiac arrest the return to spontaneous circulation rate in Delaware is 36%. This is a 1% increase from 2010. Delaware has made tremendous strides in strengthening the early defibrillation link in the Chain of Survival. The First State First Shock program administered by OEMS is certain that by continuing to place SAEDs for general public access and with first responders and continue to provide CPR/AED training, we will continue to see an increase in the cardiac arrest survival rate in the State of Delaware. The replacement of aging and soon to be obsolete SAEDs will have to become a major initiative to continue these improvements.

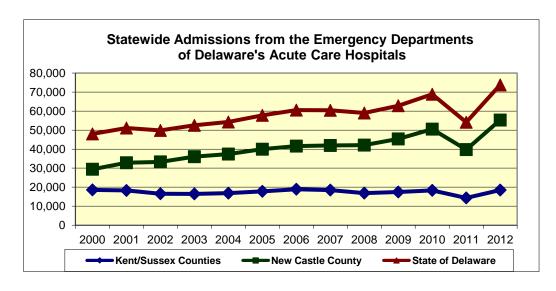
	Number of Cardiac	Patients Pronounced Dead	Patients Transported to	Patients that experienced a return of
Year	Arrests	by Paramedics	Hospital	circulation
2004	780	170	610	158(26%)
2005	752	185	585	170 (29%)
2006	756	166	590	190 (32%)
2007	756	151	605	215 (36%)
2008	745	117	628	222 (35%)
2009	773	119	654	261 (40%)
2010	850	131	717	252 (35%)
2011	893	136	756	273 (36%)
2012	882	173	709	253 (36%)

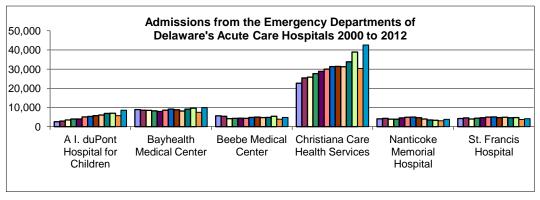
EMS System Resources

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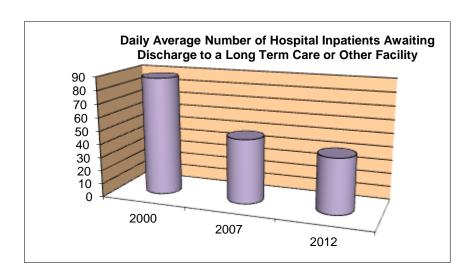
Emergency Department and Hospital Diversion Data

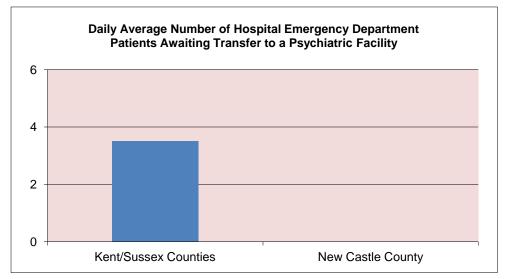
Information provided by the Delaware Healthcare Association indicates there were 403,947 visits to the Delaware acute care hospital emergency departments in 2012. This is an increase of 129,416 (32.04%) hospital emergency department visits statewide from the same period in 2000. In addition, there were 73,778 patient admissions from the emergency department for 2012, an increase of 25,766 (34.92%) from the same period in 2000.





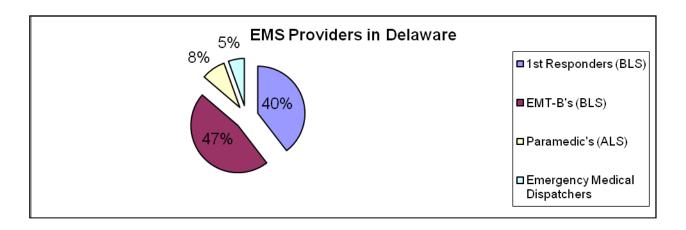
In 2012, there were still an average of 23 patients in Delaware acute care hospitals on any given day who no longer required hospital care, but the patient remained in the hospital awaiting discharge to post-acute care settings. Also, there was an average of three patients in the Kent and Sussex Counties hospital emergency departments on any given day awaiting transport to an inpatient psychiatric facility. This inability to discharge inpatients results in a shortage of inpatient beds available for the admission of emergency department patients and the inability to move the emergency department psychiatric patients until transport arrives reduces the number of emergency department beds available for new patients. This also has a direct negative impact on the frequency of hospital diversions and the BLS providers that must take patients to other hospitals outside of the BLS provider's immediate service area.





Note: the transfer of emergency department psychiatric patients to inpatient psychiatric facilities does not seem to be affecting New Castle County hospitals at this time; however, not all of the New Castle County hospitals are currently tracking transport of emergency department psychiatric patients.

Human Resources and Workforce Development



Above is a graph that shows the percentage of prehospital providers. These are the individuals that are responsible for "taking the calls". In addition to the prehospital providers, Medical Control Physicians are an integral part of the system. The medical control physicians give "online" medical direction to the providers and are the receiving physicians within the emergency rooms of the state.

Work continued in 2012 on recruitment and retention of EMS providers. There is a national shortage of EMS providers. Although Delaware is also affected by a shortage of EMS providers, the agencies across the state have worked hard to improve recruitment and retention, compensation, work conditions, training and diversity. The demand for EMS services is also expected to increase as the state's population ages. The Delaware Population Consortium projects that from 2005-2015, Delaware's population will increase by 15%, and the number of residents 60 years and older is expected to increase 27%.

While the aging population is increasing, the volunteer population is beginning to decrease. Information from the National Registry of Emergency Medical Technicians shows that the majority of EMS responders nationwide are between the ages of 20-45. Many people within this age range are finding it more difficult to volunteer their time with the increases in dual income and single parent families, and the fact that many people are working longer hours.

DEMSOC created a workforce diversity subcommittee in 2006 to address issues with the recruiting and retention of a more diverse EMS workforce. As part of this effort, the Office of Emergency Medical Services is working with technical high schools throughout the state to develop an EMS program that would increase the availability of training and allow students to transition to the Delaware Tech program upon graduation.

Increasing demand for services fueled by a rising population and aging baby boomers has placed many volunteer fire companies into a position of hiring staff to cover basic life support (BLS) ambulance runs. On the next page is a listing by company of part-time and full-time paid personnel for 2012.

New Castle County

Agency Name	Total Pd personnel	Shifts covered
Aetna Hose Hook & Ladder	8 FT - 40 PT	24 hour coverage
Belvedere Fire Co. 30	1FT 15PT	12H
Brandywine Hundred Fire Co. 11	9FT - 4PT	24/7
Christiana Fire Co. 12	9 FT - 45 PT	24/7
Claymont Fire Company 13	9FT - 125 VOL	24/72
Cranston Heights Fire Co. 14	7 FT - 35 PT	24/7
Delaware City Fire Company 15	4FT	24 On - 72 Off
Elsmere Fire Co. 16	4 FT - 15 PT	24/7
Five Points Fire Company 17	2 FT - 25 PT	24/7
Goodwill Fire Company	8 FT-10PT	24/7
Hockessin Fire Co. 19	9 FT - 10 PT	24/7
Holloway Terrace Fire Co.	40 PT	24/7
MillCreek Fire Company 21	9 FT - 15 PT	24/7
Minquadale Fire Company 22	8FT - 12PT	24/7
Minquas Fire Co. 23	2 FT 30PT	24/7
Odessa Fire Co. 24	41PT	24/7
Port Penn Vol. Fire Co. 29	4 FT - 21 PT	24/7
Talleyville Fire Co.	11FT- 20PT	24/7
Townsend Fire Co. 26	2 FT	10H
Volunteer Hose Company	10 FT 15 PT	24/7
Univ of DE Emer. Care Unit	none	
Wilmington Fire Department 100	172	24/72
Wilmington Manor Fire Co.	7 FT - 11 PT	24/7

Kent County

Agency Name	Total Pd personnel	Shifts covered
Bowers Fire Co. 40	2	12
Camden-Wyoming Fire Co. 41	6F-19P	24/7
Carlisle Fire Company 42	1F-19P	24/7
Cheswold Fire Co. 43	0F-15P	24/7
Clayton Fire Co. 6	0	0
Felton Community Fire Co. 48	8F 15P	24/7
Frederica Vol. Fire Co. 49	1F	12H

Harrington Fire Co. 50	2F 30PT	12H
Hartly Fire Co. 51	1F 4PT	8H
Leipsic Fire Co. 53	4EMT 15 Drivers VOL	
Magnolia Vol. Fire Dept. 55	15P	24/7
Marydel Fire Co. 56	VOL 7EMT, 6EMR	24/7
Smyrna American Legion 64	6F-6P	12H
South Bowers Fire Company	1F	

Sussex County

Sussex County	-	_
Agency name	Total Pd personnel	Shifts covered
Blades Fire Co.	4FT - 8PT	12H
Bridgeville Fire Company 72	2FT- 15PT	12H
Dagsboro Fire Co. 73	3 FT - 15PT	24/7
Delmar Fire Co.	8 FT - 8PT	24/7
Ellendale Fire Co. 75	4FT - 20PT	24/7
Frankford Fire Co. 76	3FT	24/7
Georgetown American Legion		
Greenwood Fire Co. 78	1FT 30PT	12H
Gumboro Vol. Fire Co. 79	4FT - 9PT	12H
Laurel Fire Dept. 81	7FT - 10PT	24/7
Lewes Fire Dept 82	9FT - 15PT	24/72
Memorial Fire Co. 89	1FT - 4PT	12H
Mid Sussex Rescue Squad Inc.	10FT	
Millsboro Fire Co 83	9 FT - 12PT	24/72
Millville Vol Fire Company 84	9 FT - 24PT	24/72
Milton Fire Co. 85	1FT 7PT	24/7
Rehoboth Beach Vol. Fire Co. 86	8 FT 30PT	24/7
Roxana Vol. Fire Co. 90	4FT 66 PT,1FT M-F84	24/72 4FT / 8H 1FT
Seaford Vol Fire Co. 87	8FT 5PT	24/7
Selbyville Fire Co. 88	3FT - 13PT	

Education and Training

Delaware recognizes three levels of Emergency Medical Services training. They are First Responder (FR), Emergency Medical Technician – Basic (EMT-B), and Nationally Registered Emergency Medical Technician – Paramedic (NREMT-P). Registration through the National Registry of Emergency Medical Technicians (NREMT) is offered for each of these levels.

To comply with the new EMS Agenda for the Future, A Systems Approach and depending on the level of certification, the designation for each one of these levels will change over the next four or five years. The National Registry of Emergency Medical Technicians, The Delaware Office of Emergency Medical Services and The Delaware State Fire School continue their commitment to implementing the EMS Agenda of the Future. Outlined below are the processes EMS providers must follow with the dates which they must have completed the transition.

Transition from First Responder to Emergency Medical Responder

Personnel certified at the First Responder level are regulated by the Delaware State Fire Prevention Commission. The Delaware State Fire Prevention Commission does not require NREMT certification at this level, however it is highly encouraged. The lead agency for First Responder education is the Delaware State Fire School. All NREMT First Responders and state certified First Responders will have the new designation of Emergency Medical Responder. First Responders who have expiration dates of September 30, 2011 or September 30, 2012 have two registration cycles (4years) to complete a state approved First Responder to Emergency Medical Responder transition course. All First Responders who had a certification expiration date of September 30, 2011 have until September 30, 2012 have until September 30, 2016 to complete the transition.

Transition From EMT-Basic To EMT

Personnel certified at the Emergency Medical Technician-Basic level are regulated by the Delaware State Fire Prevention Commission. NREMT certification is required to obtain initial Delaware EMT-B certification and although NREMT certification is not required to maintain Delaware EMT-B certification, it is highly encouraged. The lead agency for Emergency Medical Technician-Basic education is the Delaware State Fire School. All NREMT – Basics and state certified EMT-Basics will have the new designation of Emergency Medical Technician (EMT). All NREMT-Basics who have expiration dates on March 31, 2011 or March 31, 2012 have two registration cycles (4 years) to complete a state approved Emergency Medical Technician-Basic to Emergency Medical Technician transition course in order to be eligible for national EMS or state certification as an Emergency Medical Technician. All Emergency Medical Technician-Basics who had a certification expiration date of March 31, 2011 have until March 31, 2015 to complete the transition. All Emergency Medical Technician-Basics with a certification expiration date of March 31, 2016 to complete the transition.

Transition From NREMT-Paramedic To Nationally Registered Paramedic

Persons certified at the National Registry of Emergency Medical Technician-Paramedic level are regulated by the Delaware Office of Emergency Medical Services. The lead agency for initial paramedic education is Delaware Technical and Community College, Terry Campus. National certification is required to obtain and maintain certification by the OEMS and licensure by the

Delaware Board of Medical Licensure and Discipline. Each Advanced Life Support (ALS) agency is responsible for the continuing education and transition education of their paramedics with oversight from the OEMS. All NREMT-Paramedics will have the new designation of Nationally Registered Paramedic (NRP). All NREMT-Ps who had a certification expiration date of March 31, 2011 must complete the transition by March 31, 2015. All NREMT-Ps with a certification expiration date of March 31, 2012 must complete the transition by March 31, 2016 and all NREMT-Ps with a certification expiration date of March 31, 2013 must complete the transition by March 31, 2017.

Paramedic Education

Paramedic is the advanced life support (ALS) standard of care in the State of Delaware. Delaware Technical Community College offers paramedic education as part of a two-year Associate of Applied Sciences degree program that follows the National EMS Education Standards. Developing leadership and sound decision making skills as part of a student's clinical practice is emphasized throughout the Program which consists of approximately 2,000 hours of classroom, simulation lab, clinical and field internship experiences.

The Program has continuously maintained accreditation through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) since 1999. It is the only accredited paramedic program within the State of Delaware.

In 2012, the Delaware Tech Paramedic Program graduated its thirteenth class. A total of 137 paramedics have successfully completed the Program since its inception. One hundred percent of the Program's graduates have successfully passed the National Registry of Emergency Medical Technicians Paramedic examination.



Delaware Tech Paramedic Class 13

EMS Preparedness

EMS responders handle a myriad of incidents every day throughout the State of Delaware. No two calls for service are ever the same. A wide variety of patient presentations serve as a constant challenge to responders in their efforts to provide the highest quality of pre-hospital medicine.

Occasionally an incident presents whose magnitude exceeds our everyday preparations. Our dedicated responders rise up to meet every challenge thrown at them. They partner with other agencies and work cooperatively to overcome obstacles. The challenge is to effectively prepare for the worst case scenario while at the same time meet the needs of day-to-day service.

The EMS and Preparedness Section works to assess the preparedness capabilities of our emergency responders. The goal is to identify responder needs especially related to training and logistical needs.

Burn Training

The emergency care of patients who are critically burned presents challenges to our experienced medical responders in Delaware. With the threat of criminal acts of terrorism using energetic devices as weaponry, our state's cadre of care providers needs to be prepared to deal with the potential of multiple victims of this type of injury.

The American Burn Association offers the Advanced Burn Life Support (ABLS) class. This 8-hour class is intended for physicians, nurses, paramedics and other advanced care providers who may be called upon to care for victims of thermal injury. The course is led by instructors who are experts in burn care. Didactic material is combined with case studies, group discussion and hands-on training using live victims moulaged to simulate burn patients. The goal is to educate care providers on the most current guidelines on providing care to burn victims during the first 24-hours post injury.

The Office of EMS, working with the Division of Public Health, was extremely fortunate to be able to provide two ABLS classes for our state's health care providers in 2012. A.I. duPont Hospital donated facilities where thirty five students completed a class in March. In May, a second class was offered at the Delaware State Fire School where eighteen students attended. Thanks to funding from an Assistant Secretary for Preparedness and Response Hospital Preparedness Program (ASPR/HPP) grant, we were able to offer this program at no cost to the state's providers.

We look forward to offering this extremely valuable and popular program in the future.

Toxmedic Protocols

These protocols were developed to delineate the requirements and responsibilities of various agencies when providers or patients are exposed to hazardous substances. Patients who have been exposed to chemicals and weapons of mass destruction often require procedures, medication and treatments that are not in the scope of a normal field paramedic. Participation in

the Toxmedic program by Delaware paramedic agencies is elective. Each of the state's ALS agencies continues to participate.

Each paramedic identified as a "Toxmedic" has successfully completed the Advanced Hazmat Life Support Course (AHLS). AHLS program is a two day, 16 hour course sponsored by the Division of Public Health.

The AHLS program focuses on medical management of people exposed to hazardous materials, including nuclear, biological and chemical terrorism. Participants are trained to provide rapid assessment of hazmat patients, recognize toxic syndromes, provide medical management for hazmat patients, apply the poisoning treatment paradigm and administer specific antidotes.

Work continues to provide distance learning material to update all Delaware Toxmedics on current hazmat patient care protocols.

Advanced Haz Mat Life Support

The Advanced Haz Mat Life Support Course is a collaborative effort between the American Academy of Clinical Toxicology and the Arizona Emergency Medicine Research Center at the University of Arizona College of Medicine. Through a two day, 16 hour program, health care providers receive information that will aid in their care of patients exposed to hazardous materials incidents. The course covers a wide variety of topics including corrosives, toxic inhalations, and terroristic threats including chemical, biological and radiological weapons of mass effect.

In 2012, funding was available to offer one provider level class. Fifteen students, a mix of physicians, nurses and paramedics, completed the training offered at the Delaware State Fire School in September. Funding for this course also came through an ASPR/HPP grant so that we could offer this training at no cost to our local medical professionals. The Delaware Healthcare Association provided valuable assistance in the logistics of making this course possible. Dr. Rick Hong, Medical Director for the Department of Public Health, Office of Preparedness, served as course medical director. Students also benefited from excellent education provided by toxicologists from Delaware, New York, Pennsylvania and New Jersey.

We were also very fortunate to have enough funding to be able to offer a one-day instructor program. This class trained new instructors on the Advanced Haz Mat Life Support methods of instruction and course management procedures. Five students completed this training and are now valuable instructor resources to use for any new courses offered in the future.

Nerve Agent Antidote Protocols for BLS and Public Safety

The protocol was designed to outline the process by which BLS and Public Safety agencies train, acquire, maintain, use and discard nerve agent antidote kits. When responding to an act of chemical terrorism or a hazardous materials incident, emergency responders may be exposed to harmful, even fatal doses of nerve agents. In these situations, responders may need to administer life saving medications to themselves or fellow responders in a rapid time frame. The decision for an agency to participate in the nerve agent antidote program is voluntary; however, those

agencies wishing to participate must comply with the Nerve Agent Antidote protocol outlining training and quality assurance requirements.

During 2012, the Office of Emergency Medical Services continued to work with agencies participating in the nerve agent antidote program. One of the biggest challenges we will face in the upcoming years will be identifying sources of funding to replace outdated nerve agent medications. We will continue to work with the Homeland Security Terrorism Preparedness Working Group and Public Health Preparedness to seek out grants to maintain this valuable preparedness program and ensure the safety of our responders.

Technical Assistance

Since 2007, the Office of Emergency Medical Services working with the Office of Public Health Preparedness and the Delaware State Fire School has contracted a senior paramedic to provide EMS agencies with technical assistance on domestic preparedness issues. This position continues a number of projects to assess current preparedness efforts and plan for future preparedness initiatives.

The goal of OEMS domestic preparedness efforts is to increase the readiness of all Delaware responders to prepare for an all-risk response. This includes incidents of terrorism, hazardous materials releases, specialized and technical rescue, severe weather events, mass illness outbreaks and mass casualty situations. Efforts will be made to increase the interagency operability between EMS and other state response and preparedness agencies.

Smoke Inhalation

Building fires produce many toxic chemicals as their construction materials and contents burn. Firefighters are routinely exposed to these chemicals sometimes despite the advances in protective clothing and breathing apparatus. One of the deadliest chemicals present is cyanide. Cyanide attacks the energy producing processes in the body to render them ineffective. Trying to provide oxygen alone may not be enough to get the energy production restored.

For many years, Delaware's Toxmedics have had antidotes for cyanide included in their protocols. Realizing that many structure fire incidents may not have a Toxmedic on scene, a protocol was developed for all paramedics in the state. This will allow them to administer cyanide antidotes to victims rescued from structure fires who may be unconscious because of cyanide poisoning. Another targeted patient population for this new protocol is our state's firefighters. Already stressed by the exertions of active firefighting, cyanide may contribute to cause illness to the men and women of our state's fire service. By having the antidote readily available, we can avoid delays in treating what could be a life threatening condition at the scene.

Challenges for the Future

Our state is made up of a variety of emergency responder agencies. We are served by combinations of career and volunteer providers. Reaching these varied individuals with new training is often difficult. Time constraints placed on volunteers often limits their availability as they are stretched between work obligations, family time, volunteer emergency service and other organizations they may serve such as school and church groups. We will be tasked to be able to offer distance or just-in-time learning to meet their needs. Existing agencies such as the

Delaware State Fire School already has such programs in place and they do a commendable job at reaching responders throughout the state. OEMS may be able to assist with course development to augment the programs already offered.

Equipping and training our emergency responders is not cheap. With our current economy, we will be challenged to provide the best equipment and education under sometimes limited funding. We will continue to seek out grants and sources of existing training in order to keep our responders the best trained and most proficient in the nation.





EMS Interfacility Transport

Interfacility transport services are an important part of any well designed EMS system. The EMS system is often thought of as the 911 emergency response service, but the 911 emergency response service is just one part of the whole EMS transport system. The 911 transport system is not staffed to provide transport services for the non-emergent patients and remains available for emergencies as they arise. Interfacility transport services fill this important role allowing the 911 emergency response units to remain available for emergent request for service. To date, there are 100 ambulances certified through the State fire commission to provide these services through nine (9) interfacility transport companies.

There are three types of ground interfacility transport ambulances in Delaware:

•Basic Life Support (BLS):

- oAmbulances are staffed with Emergency Medical Technicians (EMTs). EMTs provide basic care and patient monitoring including oxygen therapy, bandaging and splinting, etc.
- o Interfacility transport EMTs have the same scope of practice as 911 EMTs and utilizes the same statewide treatment protocols.
- oDelaware has nine Basic Life support interfacility agencies with a total of 100 ambulances licensed and operating in Delaware:
 - •CFT
 - •Christiana Care
 - •Delaware Park
 - Hart to Heart
 - LifeStar
 - Prime Care
 - •St. Francis
 - Transcare
 - Urgent

•Advanced Life Support (ALS):

- oAmbulances are staffed with at least one Paramedic and one EMT. Paramedics provide advanced life support care and monitoring including ACLS. The EMT provides support to the Paramedic.
- oInterfacility transport paramedics have the same scope of practice as 911 paramedics and utilize the same statewide treatment protocols.
- ODelaware has two paramedic interfacility agencies licensed and operating in Delaware:
 - •St. Francis
 - TransCare

• Hospital Based Transport Team:

- oAmbulances are staffed with transport team personnel and at least one EMT from the transport service. The transport team personnel are staffed with specialty care personnel typically representing at least one Registered Nurse, one Respiratory Therapist, and may include a Physician.
- oThe transport team is able to perform procedures and assessments authorized by a prescribing practitioner and overseen by the medical facility. The EMT provides support to the transport team.
- ODelaware has two hospital based transport teams:
 - •Christiana Care Health Services
 - •AI duPont Hospital for Children

Interfacility ambulance services can be used for the following types of Patients:

- Facilities requesting non-emergency patient transportation
- •Skilled Nursing Facilities
- Physician Offices
- •Clinics
- Acute Care Hospitals

- •Home/Hospice Care Facilities
- •Board and Care Facilities
- •Urgent Care Centers
- •Custodial Care Centers with a prescribing practitioner including jails, rehabilitation centers, etc.



New Castle County

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New Castle County Emergency Medical Services Division

OVERVIEW

Introduction

The mission of the New Castle County Emergency Medical Service, as an essential component of the New Castle County Government, is to provide efficient, compassionate, and high quality emergency medical care to the visitors and residents within New Castle County. Our delivery of paramedic service directly impacts the quality of life for all who reside, visit, and work in New Castle County.

The New Castle County Emergency Medical Service is a county municipal "third service" paramedic agency within the County Department of Public Safety. New Castle County EMS has the distinction of being the "First Paramedic Service in the First State." In 2010, New Castle County EMS became the first EMS agency in Delaware to achieve national accreditation from the Commission on Accreditation of Ambulance Services (CAAS).

New Castle County EMS operates in a "tiered response" configuration, and responds with basic life support (BLS) ambulances from the volunteer fire service, career fire departments, private ambulance service providers, and specialized BLS providers, such as the University of Delaware Emergency Care Unit, a student operated ambulance.

In 2012, New Castle County EMS deployed nine (9) paramedic units during its high call volume period during the day and eight (8) paramedic units during non-peak operating hours at night. A Paramedic Sergeant (field EMS supervisor) is on duty during each shift with a second Paramedic Sergeant augmenting field operations during peak call volume periods. An EMS Lieutenant serves as the shift commander on a 24-hour basis. Both the Paramedic Sergeant and EMS Lieutenant are equipped as advanced life support responders.

Our personnel strive to demonstrate their commitment to our motto "Excellence in Service" each and every day.

Further information regarding the New Castle County Paramedics is available on our web site at: www.nccde.org/ems.



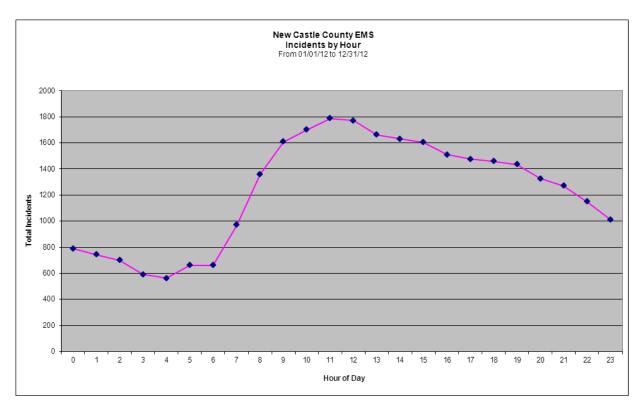


OPERATIONS

Paramedic Service Operational Demand

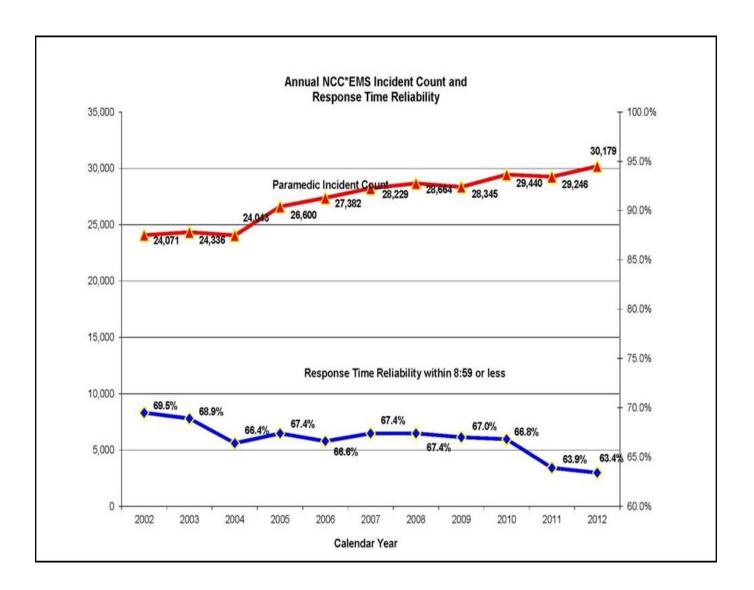
New Castle County EMS has a clearly defined call volume pattern that begins to increase at approximately 0600 hours each day, reaches a peak at approximately 1100 hours, then steadily declines until after midnight. Utilization of "power shift" units, such as Medic 9, provides an opportunity to increase paramedic staffing during high call volume times each day. Additional paramedic units have been placed in service for special circumstances, including inclement weather conditions and other events that could potentially impact paramedic service delivery to New Castle County.

In 2012, the EMS Division deployed eight (8) paramedic units and a Paramedic Sergeant on a 24-hour basis, seven days a week. A ninth paramedic unit and second Paramedic Sergeant are added during peak call volume periods on a "power shift" configuration (0700-1900 hours) seven days a week.



This chart illustrates the New Castle County paramedic call volume during calendar year 2012 by hour of day.

Source: New Castle County Computer Aided Dispatch (CAD) System



New Castle County EMS had a paramedic service response time for *all* incidents (combined Charlie, Delta, Echo and stand-by events) of 63.4% reliability within 8:59 minutes or less during calendar year 2012. Response time reliability based on dispatched priority level documented a faster paramedic response time for potentially life-threatening, time sensitive ("Echo" level) incidents with a response time reliability of arrival 69.6% within 8:59 minutes or less, since the communications center will re-assign paramedic units from lower priority incidents to time-sensitive incidents.

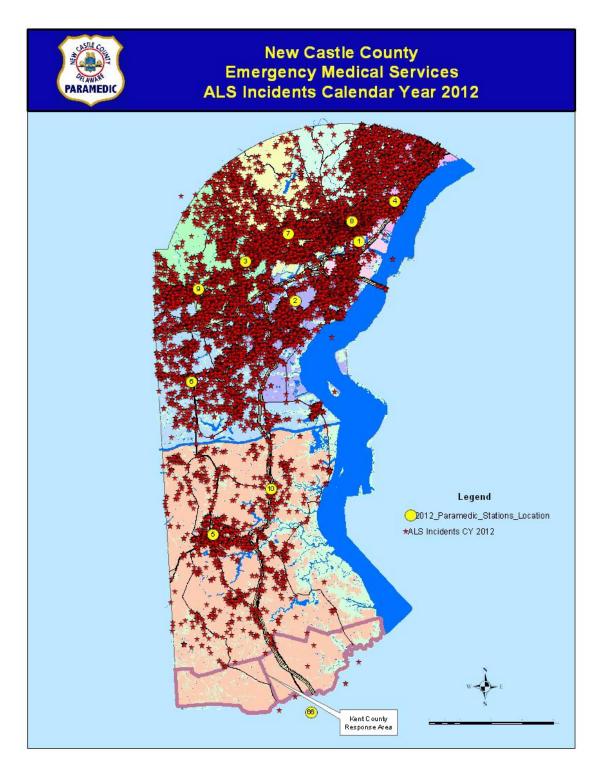
The Emergency Communications Center will prioritize emergency medical incidents in accordance with a national set of criteria. It is routine for the communications center to reassign paramedic units from a lower priority incident to a higher priority medical incident.

The New Castle County Paramedics responded to 30,179 incidents during calendar year 2012. Approximately 4,169 patients required two or more paramedics to accompany them during their transport to the hospital.



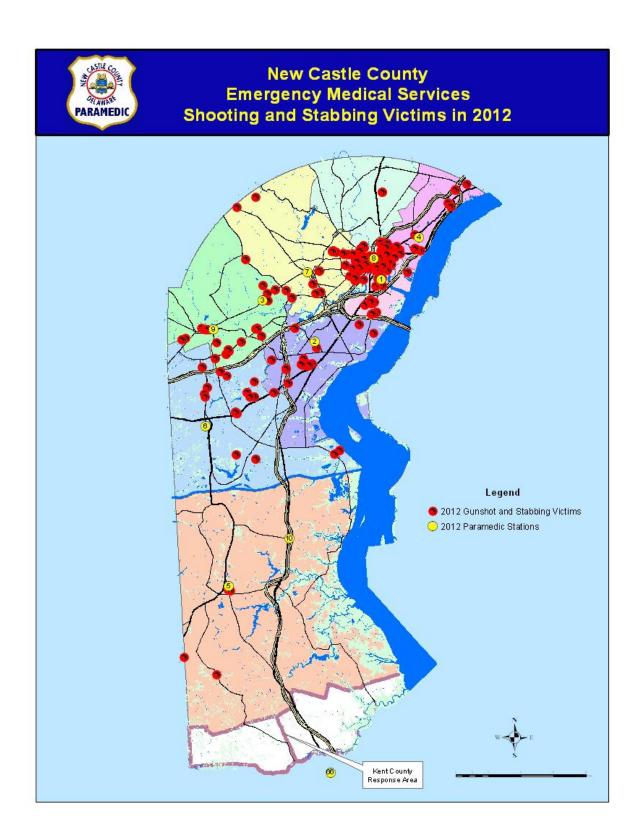
This map illustrates the number of New Castle County Paramedic incidents that occurred in each fire company district during calendar year 2012. The New Castle County Paramedics work closely with the fire company basic life support ambulances on a daily basis. County paramedics augment the basic life support capabilities of the fire service ambulances by providing out-of-hospital advanced life support care for patients requiring paramedic services.

Source: New Castle County Computer Aided Dispatch (CAD) System.



This map illustrates all of the New Castle County Paramedic incidents that occurred during calendar year 2012. Each star reflects an advanced life support incident. The yellow circles depict the current location of New Castle County Paramedic stations or deployment points.

Source: New Castle County Computer Aided Dispatch (CAD) System



This map illustrates New Castle County Paramedic responses involving a shooting or stabbing that occurred during calendar year 2012.

Source: New Castle County Computer Aided Dispatch (CAD) System



October 24, 2012: New Castle
County Paramedics responded to a
serious motor vehicle collision
involving a loaded Bolt bus on
Interstate 95 near Newark. The
incident was declared a Level II
multi-casualty incident (MCI)
prompting the activation of the
county-wide MCI operations plan.
County Paramedics must be
prepared to handle the medical
needs of multiple-patient incidents
that can be created by a variety of
circumstances.

New Castle County Paramedic Unit Activity

PARAMEDIC UNIT	2012
Medic 1 (Wilmington)	3,291
Medic 2 (New Castle)	4,118
Medic 3 (Newark)	3,397
Medic 4 (Brandywine 100)	3,415
Medic 5 (Middletown)	1,803
Medic 6 (Glasgow)	3,131
Medic 7 (Prices Corner)	3,620
Medic 8 (Wilmington)	4,116
Medic 9 (12 hour/day unit)	1,918
Medic 10 (Special Duty)	47
Medic 11 (Special Duty)	27
Medic 12 (Special Duty)	1
Medic 13 (Special Duty)	0
Medic 20 (Special Ops)	37
ALS Bike Team	10
Single paramedic ALS responses	2,500
TOTAL RESPONSES	31,431

New Castle County EMS Supervisor and Staff Activity

EMS SUPERVISOR/STAFF	2012
EMS HQ Staff (Chief & Asst Chiefs)	98
EMS Lieutenants	424
Paramedic Sergeants	2,957
TOTAL STAFF RESPONSES	3,479



March 19, 2012: New Castle County
Paramedics are occasionally required to
provide medical care in unusual locations.
Here, County Paramedics responded to a
medical emergency that occurred in the
operator cab of a crane at the Port of
Wilmington. The paramedics climbed the
crane to access the patient, and worked with
the Wilmington Fire Department to lower the
patient to the ground.

ADMINISTRATIVE ACTIVITY

Public Education/Injury Prevention Programs

New Castle County EMS continued to provide a limited number of public education activities to support its delivery of emergency medical care. Public education is a secondary function within the EMS Division, and is not supported by a full time assignment. Unfortunately, our agency has had to reduce its outreach activity as a result of fiscal restrictions throughout state and local government. A robust public education program can support the delivery and performance of an EMS system by improving the speed of public access and prompting appropriate bystander response before EMS arrives on scene. New Castle County has bystander CPR performed during cases of sudden cardiac arrest at a rate below the national average. In New Castle County, the initiation of bystander CPR before EMS arrives gives the patient a 2.5 times greater chance of survival.

Public Education Activities

CPR/AED Classes 32 courses conducted with certification of 431 persons

CPR Healthcare Provider 32 courses conducted with certification of over 409 persons

First Aid Classes 2 courses conducted with certification of 40 persons

Vial of Life Program Continued collaboration with Christiana Care Emergency

Departments and Visiting Nurse Association, and volunteer fire service to facilitate ongoing distribution of Vial of Life kits. Distributed 41 Vial of Life kits through direct requests to

the EMS Division.

EMS Division Displays Staffed 14 paramedic service displays or presentations with

10 EMS Division Honor Guard details and 4 NCC Pipes and

Drums events.

EMS Continuing Education New Castle County Paramedics provided 3 continuing

education presentations to 117 basic life support personnel.

Teen Driving Awareness 3 events with 51 students to highlight the risks and potential

impact of teen driving decisions

Youth Education 9 presentations to 402 students regarding EMS careers and

the role of paramedics in the emergency medical services

system





Chester, PA: The New Castle County EMS Division Honor Guard led the opening ceremony for the start of the Philadelphia Union Major League Soccer team game against the Chicago Fire on August 12, 2012 at PPL Park in Chester, Pennsylvania. The NCC*EMS Honor Guard presented the colors in the 18,500 seat stadium as the fans sang the national anthem.

ACCOMPLISHMENTS

NCCo EMS Division Renews National Accreditation



In December 2009, New Castle County EMS became the first EMS agency in Delaware to achieve national accreditation from the Commission on Accreditation of Ambulance Services (CAAS). In 2012, New Castle County EMS applied for renewal and was granted a full three-year accreditation that will remain effective through December 31, 2015. Accreditation signifies that an agency has met the "gold standard" determined by the industry to be essential to a modern emergency medical services provider. New Castle County EMS is also the first and only ALS-intercept agency to ever complete the accreditation process.

New Castle County Council Presents Tribute to NCC*EMS



On January 24, 2012, the New Castle County Council presented a tribute to the Emergency Medical Services Division of the Department of Public Safety. County Council cited the commitment to excellence that was highlighted by the above average cardiac arrest survival rates reported by the CARES Registry.

(Left to Right) Councilman Jea Street, EMS Chief Lawrence Tan, Councilman George Smiley and Councilman J. William Bell during the council presentation.

2012 EMS Graduation & Appointment Ceremony



New Castle County EMS hosted their annual Graduation & Appointment Ceremony in May 2012 during National EMS Week. The annual event recognizes the graduating New Castle County paramedic students, in addition to those "selective certification" personnel that transferred from out-of-state.

Appointed to the Service in 2011

Paramedic Richard P. Beverlin Paramedic Brandon S. Bowyer Paramedic David T. Franck Paramedic Julianne F. Santora Paramedic Bryan K. Stites Paramedic Ashley M. Zamule

New Castle County Paramedic Class of 2010-2011

Paramedic Patrick M. O'Boyle Paramedic Yvonne T. Russell

NCC*EMS Continues Fleet Replacements and Enhancements



The 2012 replacement paramedic vehicles are pictured in front of the New Castle County Department of Public Safety Headquarters on DuPont Highway. The latest generation response trucks include changes from roll-up to insulated compartment doors for better temperature control of the ALS medications and equipment. This is also the first year New Castle County changed to a Chevrolet chassis, following worldwide issues with the Ford Super Duty engines in emergency vehicles.

NCC*EMS Honor Guard Participates in Services for Retired Wilmington Fire Chief



The New Castle County EMS Division Honor Guard (*left photo*) joined the Wilmington Police Department Honor Guard and Wilmington Fire Department Honor Guard in rendering honors to retired Fire Chief James Ford at services held on May 31, 2012. Public safety officials from throughout the state were present to honor the retired chief.





NCCo Paramedics Continue Community Service Program



The New Castle County Paramedics have continued to participate in a holiday community service program from Thanksgiving through Christmas by supporting various non-profit organizations in the community.

The 2012 Ministry of Caring Thanksgiving Food Basket volunteers pause after preparing food for 609 families in the Wilmington and New Castle County area. Some volunteers have made the project an annual holiday event for their families. Paramedic Jessica Duncan and Paramedic Cpl. Robert Sullivan (left photo) visited the food basket preparation while working in Wilmington.



NCC*EMS Maintains Presence on NCC-TV



Dishwasher or laundry detergent gel packs can be mistaken for candy and pose a hazard to young children. Store these packets out of reach from your toddlers and tell your older kids these chemicals can be dangerous. A message from your paramedics.

The EMS Division continued to use NCC-TV, the New Castle County government access cable television channel disseminate to injury prevention information and highlight county paramedic service. NCC*EMS issued а cautionary message in 2012 following notice from the Consumer Protection Safety Board of accidental poisonings of children mistaking detergent gel packs for candy.

Paramedics Featured in County Executive's Budget Address



From right to left: New Castle County Paramedic Matthew Heiger, P/Cpl. Robert Sullivan and Paramedic Cpl. David Aber attended the County Executive's Budget Address with the Jenkins family. The paramedics were highlighted in the budget address after they responded to a house fire in Wilmington and treated two children that were trapped in the burning house. One child was in respiratory arrest, with the other in cardiac arrest. Working with Wilmington firefighters and St. Francis Hospital ambulance personnel, the paramedics participated in successfully treating and transporting the children to the DuPont Hospital. Both children also attended the budget address.

NCCo Paramedics Participate in Job Fairs



The EMS Division also conducted on site recruitment at the EMS Today Conference and Exposition held in Baltimore, MD in March 2012. Paramedic 1/C Sherri Portello (*left*) and Paramedic Cpl. Autumn Tuxward were two of the EMS personnel that staffed the New Castle County EMS recruitment booth.



New Castle County Paramedics also participated in several job fairs to highlight careers in emergency medical services. Paramedic Cpl. Autumn Tuxward (*left*) joins a member of the Office of Human Resources staff at a Delaware State University career fair held in October 2012.

NCCo EMS Division Provides Medical Coverage to Annual Delaware Marathon



The New Castle County Emergency Medical Services Division once again coordinated the event medical coverage for the annual Delaware Marathon held in Wilmington, Delaware on May 13, 2012. This year, the estimated 3,000 participants included Greg Goebel from Sarasota, Florida (lower left photo) as he worked to join a group of less than 700 people to have completed a full 26.2 mile marathon in all 50 states. A wire service news story that identified Goebel as a sudden cardiac arrest survivor from January 2011 caught the attention of the event planners from New Castle County EMS. Mr. Goebel took time to visit with New Castle County Paramedic Michael Pietruczenia and Chief Lawrence Tan at the EMS command post after he completed the race. He wears a sign encouraging others to "Leam CPR – It saved MY life."





NCCo Paramedics Recognized by Kiwanis Club of Wilmington







On July 18, 2012, Paramedic Corporal Aaron M. Tarpine was recognized as the Paramedic of the Quarter for the second quarter of 2012 by the Kiwanis Club of Wilmington. P/Cpl. Tarpine was cited for his community service efforts that went beyond his primary role as an emergency medical services provider.

(Left to Right) County Councilwoman Janet T. Kilpatrick, EMS Chief Lawrence E. Tan, Paramedic Corporal Aaron M. Tarpine and his wife, Erica Tarpine at the Kiwanis Club of Wilmington awards luncheon at the Hotel DuPont.

On October 17, 2012, Paramedic Corporal Christopher A. Johnson was recognized as the Paramedic of the Quarter for the third quarter of 2012 by the Kiwanis Club of Wilmington. P/Cpl. Johnson was cited for consistent focus on the needs of his patients, and his unwavering attention to duty.

(Left to Right) Mr. David Wilson, chairman of the Kiwanis Club of Wilmington Civil Service Awards presents P/Cpl. Christopher Johnson and his wife, Tina with the Paramedic of the Quarter Award at the Hotel DuPont.

Paramedic Corporal Peter T. Small received the Paramedic of the Quarter award for the fourth guarter of 2012, and was selected to receive the Paramedic of the Year for 2012 by the Kiwanis Club of Wilmington. P/Cpl. Small was cited for the value he places on a human life, and his commitment to public service. His continued actions on November 8. 2012 when he was the first public safety responder to arrive at the scene of a motor vehicle collision with two subjects trapped in a burning car--despite significant risk of serious personal injury, illustrated his commitment to service. P/Cpl. Small used the fire extinguisher in his vehicle to attempt to access either victim, and continued to use other fire extinguishers from other vehicles at the scene until fire apparatus arrived. He was later treated for burns to his face and hands.

(Left to Right) Chief Lawrence Tan and Paramedic Corporal Peter Small at the Kiwanis Club of Wilmington Annual Civil Service Awards Dinner.

NCCo EMS Participates in Prevention Campaign



New Castle County EMS participated in a joint program with the Delaware Office of Highway Safety as a component of their "Click It or Ticket" injury prevention campaign. New Castle County Paramedics were featured in print, television and radio public service announcements to highlight the use of seat belts.

The "Seat Belts Save More Lives Than We Do" poster was also printed and distributed in Spanish.

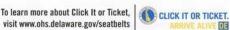
Drive without a seat belt and a ticket could be the least of your worries. JUST ASK A PARAMEDIC.

Emergency medical personnel will tell you that seat belts save lives. They see it every day. They will also tell you:

- . Wearing a seat belt decreases your risk of being seriously injured or killed in a crash by approximately 50%.
- . Hospital data shows that unbelted occupants in crashes are three times more likely to require a hospital stay. On average, hospital costs for an unbelted crash victim are 55% higher than those for a belted crash victim.
- . Strong seat belt laws protect families. When parents are buckled up, 90% of the time their children are too.



visit www.ohs.delaware.gov/seathelts









November 17, 2012: New Castle County Paramedics work with rescue personnel from the Claymont and Talleyville Fire Companies at the scene of a serious motor vehicle collision on Marsh Road at Chestnut Road. The head-on collision between a car and minivan left three people trapped in the car, and one person trapped in the overturned van. All four patients were transported with County Paramedics, including one via the Delaware State Police helicopter. (Photos courtesy of John J. Jankowski, Jr.)

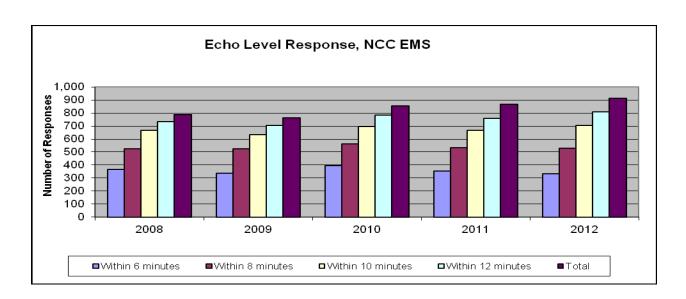


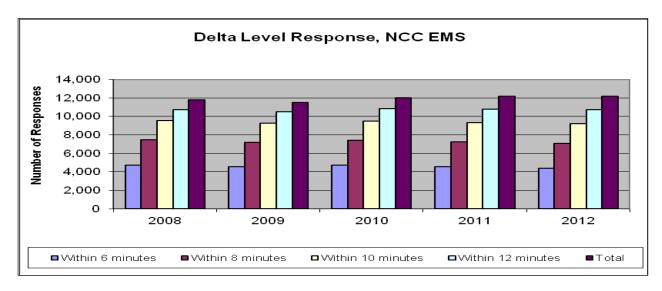


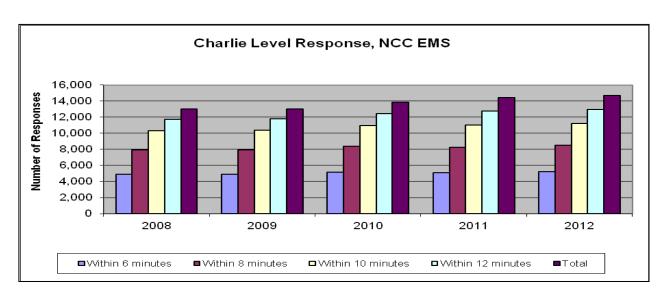
Our Mission is Your Life



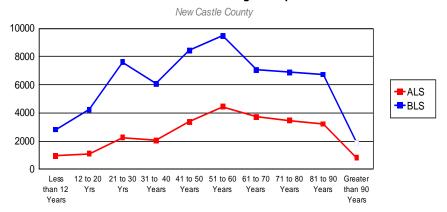
NEW CASTLE COUNTY PARAMEDICS



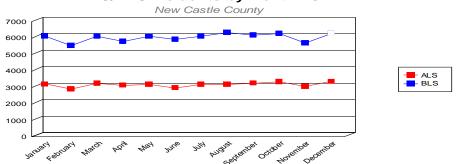


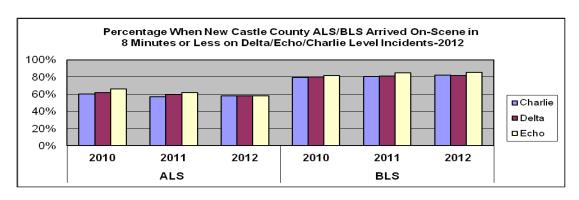


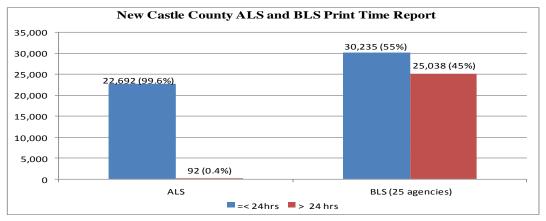
ALS and BLS Patient Age Comparison-2012



ALS/BLS Incidents by Month-2012







New Castle County

Basic Life Support (BLS)
Submitted by various BLS agencies in New Castle County

New Castle County is comprised of 21 volunteer fire companies and one paid fire department, the City of Wilmington. Every fire company in New Castle County operates at least one basic life support unit and many fire companies operate multiple BLS units. There are two additional BLS units, owned by the county, that are used as "loaner" ambulances; these ambulances are placed into service when a fire company's ambulance is placed out-of-service for any period of time.

Many volunteer fire companies in New Castle County are transitioning from a predominantly volunteer system to a combination system, which accommodates both volunteer and paid personnel. During a time when volunteerism is on a decline, fire companies must find alternative ways to provide a safe, quick, and professional service, while struggling with these personnel issues. BLS units need to be on-scene within an average of eight minutes of most calls. This type of time demand, as well as increased call volume has lead many volunteer companies to transition to paid personnel that work various shifts. The combination departments have shown to be a great improvement for many New Castle County Companies.







Photos courtesy of Aetna Fire Company

Communication Center

New Castle County

Submitted by Jeffrey P. Miller

The New Castle County 911 Emergency Center receives 911 calls through a variety of phone exchanges and numerous cell towers throughout New Castle County. The total number of 911 calls processed in year 2012 was 365,919. Another 89,169 non-emergency calls were also processed by our Emergency Call Operators. The Center dispatched or processed a total of 128,861 fire/medical incidents and 311,738 police incidents in year 2012. New Castle County Emergency Communication Center handled over 51.63 % of the total 911 calls in the State of Delaware for 2012. Total of all calls processed by the New Castle County Emergency Communications Center in 2012 was 1,023,351.

The New Castle County Emergency Communications Center continues to be recognized as an Accredited Center of Excellence in Emergency Medical Dispatch by the National Academy of Emergency Medical Dispatch. In October 2002 we became the 74th agency in the world to achieve this honor; and then, re-accredited in October 2005, November 2008 and November 2011. Additionally, we utilize the National Academy of Emergency Fire Dispatch protocols and currently working toward our national accreditation. New Castle County Emergency Communications secured funding for the purchase of Emergency Police Dispatch and in 2013 will become the first 911 Center in Delaware to provide all three Protocols for the public when calling for emergencies.

The New Castle County Emergency Communications Center operates 24 hours a day. We provide Fire/EMS Communications to the City of Wilmington, twenty-one New Castle County Volunteer Fire Companies, six fire brigades, and the New Castle County Paramedics. Additionally, we provide Police Communications service to seven police agencies within New Castle County. The Center is staffed by thirty eight full and part-time Emergency Call Operators, twenty-three New Castle County Police Communications personnel, twenty Delaware State Police Communications personnel, twenty-five full-time Fire/Medical Communications personnel, and an administrative staff of six personnel.

This agency also operates a state-of-the-art mobile communications van that is capable of taking over all operations, with the exception of phones, within the 911 Center at a moment's notice. The New Castle County Emergency Communications Center operates within the New Castle County Public Safety Building.

New Castle County dispatch did not submit a scratch report.





Kent County

Advanced Life Support	1
Basic Life Support13	1
Communication Center 13	2

Kent County Emergency Medical Services

Submitted by Kent County EMS

Mission

Our mission is to be a leader in meeting the present and future health care needs of the citizens and visitors in our community through a network of high quality advanced life support services, education and prevention programs which share common goals and values.

Values

<u>Service</u>: We are committed to help the sick and injured by providing superior service to our patients and our community with skill, concern and compassion.

Quality: Because our patients are our primary concern, we will strive to achieve excellence in everything we do.

<u>People</u>: The men and women who are our paramedics, and those associated volunteers, physicians, nurses and students are the source of our strength. They will create our success and determine our reputation. We will treat all of them with respect, dignity and courtesy. We will endeavor to create an environment in which all of us can work and learn together.

<u>Stewardship</u>: Fulfilling our mission requires that we use our resources wisely and with accountability to our publics.

<u>Integrity</u>: We will be honest and fair in our relationships with those who are associated with us, and other health care workers as well.



All Terrain Medical Response Team

EMS agencies throughout the country have realized the important role of bicycles in the realm of pre-hospital emergency care. Bicycles are both a cost effective and fun way of delivering any level of pre-hospital emergency care in any number of venues.

The advantages that paramedics on bikes have are many. Crowd congestion issues are lessened by the increased mobility of bicycles, they are relatively inexpensive, cost little to maintain, are able to carry Advanced Life saving equipment, and they offer health benefits to the providers who are riding. This does not even begin to touch upon the intangible benefits of public relations, and community educational opportunities afforded by being "on ground level" with the population you serve. Every child in the area wants to know who you are, what you do, and what things you have on your "tricked out" bike. In Kent County, we have used this as an on duty opportunity to do helmet education, and community education on what it is we actually do as paramedics. Paramedics may be out there to initiate life saving procedures, but many times it is the patient contact with the child who needs only a Band-Aid where we make the greatest impact.

History

Kent County Department of Public Safety, Division of Emergency Medical Services (KCDEMS) has been utilizing paramedics on bicycles for 14 years. Our utilization has risen from 10 events our first year to one or more events almost every weekend from March through October. KCDEMS utilizes our team for everything from Bike Rodeos, where we may teach bike safety and handling to 10 kids, to race coverage for Dover Downs International Speedway where the crowd can top 170,000. The flexibility of our high-end aluminum mountain bikes has allowed us to tailor our programs to the needs of the requesting agency.

Training

Training our members is important for a variety of reasons. First and foremost it helps our paramedics feel confident in their skills, and it promotes safe and able handling of the bike. KCDEMS sends all of our All Terrain Medical Response Team (ATMRT) candidates to International Police Mountain Bike Association (IPMBA) School. This is a comprehensive program that spans four 8-hour days. This school teaches our medics a multitude of skills, including how to maneuver the bikes, how to safely negotiate obstacles, and also covers basic maintenance skills. This training ensures that all of our team members have a foundation of safe riding skills. In conclusion, paramedics on bicycles are an asset to any agency. We are not only able to decrease response times by our increased mobility in a crowd, but are able to do positive public relations and education because of our increased accessibility.



Kent County EMS Hazardous Materials (HAZMAT) Medic Team



Kent County EMS began to develop its role as support agency to Hazmat Responders early in 1997 with the initiation of the KCEMS Hazmat Medic Team. The Administration identified the goal of offering technical and functional Incident support to the

Commander of a HazMat Scene. The Team's mission statement defines this task as "...working with Fire-Rescue Units and other agencies to effectively minimize health risks to the individual, responders, and community in the event of a hazardous materials release". The team was assembled with two Paramedics selected from each shift, one alternate member, and one Administrator to oversee the project.

The first group of five team members was sent to Delaware State Fire School for the EPA Hazmat Operations training in April 1997. This core group compiled a great deal of information while working towards development of operational plans and department SOP's. As the remaining team members have completed the 40 hour Operations training, the team has conducted and /or participated in several training exercises involving the volunteer fire and ambulance services and local industry. The accumulation of equipment has been ongoing and continues to expand. The arrival of the MCI-Hazmat response trailer to Kent County has added to the possibilities of the team's potential. Team development continues at a steady pace.









Law enforcement agencies throughout the country have realized the important role of medical support during SWAT or tactical missions. Utilization of experienced paramedics trained in tactical operations enhances the team and ensures appropriate and timely emergency medical care during highly stressful and potentially dangerous situations.

History

Kent County Department of Public Safety, Division of Emergency Medical Services (KCDEMS) initiated the SWAT/Tactical Medic program in 2007. The first law enforcement agency to request our services was Smyrna Police Department. Smyrna PD coordinates a consortium tactical team, the STAR (Special Tactics and Response) team comprised of members of various departments. Recently, Milford Police Department has requested KCDPS SWAT-Medics support their SOG (Special Operations Group) tactical team.

Training

Intensive training is required to be proficient and maintenance of skills. SWAT-Medics, in addition to remaining proficient in emergency medical treatment protocols and procedures, must also maintain training in tactical operations and weapons. Initial training occurs at the International School of Tactical Medicine® where specialized emergency medical training is provided to handle advanced airway management, thoracic and abdominal injuries, orthopedic stabilization, police K-9 emergency veterinarian care, and much more. This school also certifies our paramedics as basic and advanced SWAT operators with a proficiency in tactical entry, room clearing, weapons training, hostage and barricaded subjects training. The team continually trains on a monthly basis with both the STAR and SOG teams to ensure excellent working relations and skills maintenance.





For year 2012, Kent County SWAT-Medics have had a very productive year. We started the year with 4 operators, including The Administrative Captain. We expanded the team by one person bringing the total available operators to five.

Operations for the team for 2012:

We have supported Smyrna Police STAR Team, Milford Police SOG Team, and DSP Sort Team on 12 missions.

- 6 missions were in support of the Smyrna STAR Team
- 4 missions were in support of the Milford SOG Team
- 1 mission was in support of a joint mission with Smyrna's and Milford's Teams
- 1 mission was in support of DSP SORT team

We supported the teams noted above in

- 8 Search Warrant executions
- 2 Arrest Warrant executions
- 2 Barricaded subjects (One of these missions was the support of DSP Sort)

Training for the team was also extensive through 2012:

- We have participated in 132 hours of training with the Smyrna STAR team
- We have participated in 88 hours of training with the Milford SOG team
- In addition to this monthly training, we participated in a multi-agency exercise sponsored by the University of Delaware Police Department and Delaware State Police on July 11, 2012. This exercise was held at U of D in Newark, DE and involved 11 SWAT teams from the State of Delaware who responded to multiple active shooters and hostage situations on the University's campus. We were an integral part of tactical medical support for both Smyrna's and Milford's teams.
- Also, we sent one operator, to the west coast to participate in a one week National Tactical Officer Association sponsored STORM (Specialized Tactics for Operational Rescue and Medicine) training. This course enhanced his tactical knowledge and ability to more effectively support the police agencies.

Injury Prevention and Community Outreach

Kent County Department of Public Safety Division of EMS is proactive in our injury prevention efforts. Throughout the course of the year, we have done a variety of prevention and educational programs for the public we serve. 2012 was a busy year. population of Kent County grows, the requests for stand-bys, and community service increase proportionally. In addition to the All Terrain Medical response team events listed in the previous section, Kent County paramedics participated in 22 community events. These events included CPR classes, school demos, health fairs, and a great number of standbys (where we are on standby due to crowd estimates, etc.) Kent County Paramedics taught seven CPR classes last year.



2012 marked the 10th year that we have been a recognized NHTSA fitting station. Parents and caregivers may come by headquarters by appointment and have their car seats inspected, and checked by our trained technicians. In 2012 we inspected and installed 15 car seats. Our department now has one NHTSA certified child seat safety technician who has completed the NHTSA 32 hour course.



In addition to the above, Kent County Department of Public Safety Division of EMS participated in a number of community outreach and injury prevention programs with the Caesar Rodney School District, Capital School district, the Kent County Public Library and Dover Public Library. In order to accomplish effective communication with our younger audience, Paramedic Pete was hired and detailed to cover these events. Pete spoke with the children regarding who Paramedics are and what to expect if they call 911. Also discussed were bike safety, antibullying campaign, summer / water safety among other topics. Paramedic Pete and his assistants, Paramedic John and Paramedic Mike were well received!





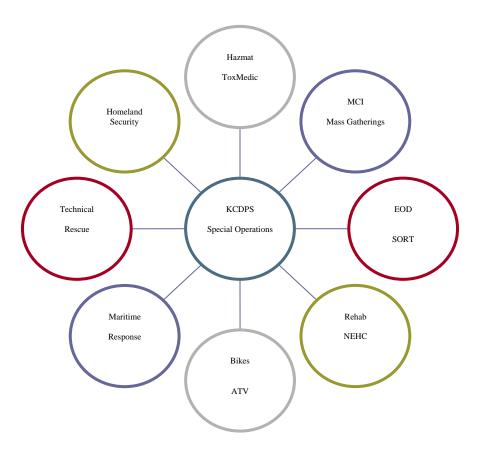
EMS has an important role in Injury prevention, and we believe that we have a responsibility to do all we can to prevent unintentional injury. We will continue to participate in as many programs as we can, in order to decrease the morbidity and mortality that results from preventable injury.

In addition to two large NASCAR races every year, the EMS Division has been asked to cover the Firefly Music festival on the property of Dover Downs. Kent County Deployed 10 Medics each day to cover the venue, and it was estimated that up to 30,000 attendees enjoyed the festival each day.





Kent County Dept of Public Safety 2012 Improvement Initiatives and Summary Report



Overview

Special Operations encompasses the response categories of Mass Casualty Incident (MCI), Hazardous Materials Incidents (Hazmat), Technical Rescue Operations (confined space, high angle, trench, collapse), Explosive Ordnance and Tactical EMS Support (EOD/SORT), Fire Ground Support (Rehab), All-Terrain Medical Response (Bikes & Medic-Gator), Maritime Operations, and Weapons of Mass destruction (WMD/CBRN) preparedness and response.

In keeping with the National trends, Special Operations activity within the Department continues to gain a more "global" or "all-hazards" capability in that equipment, materials, and personnel are utilized for multiple response strategies with key personnel with more highly focused training serving as response leaders.

This section of the report will update the current status of each of these response categories as a result of equipment procurement, training of personnel, and activity over the past year. Further, an outline of future needs and initiatives will be presented.

Mass Casualty Incident (MCI)

Response

The Department MCI Plan identifies staged levels of response based upon assessed patient populations. The key operational point identified is early activation of the MCI response. The plan allows for any component of the system to "make the call", therefore, Department Dispatchers, Medics, Supervisors, or Administration can all initiate the MCI Response Plan. The MCI Response Plan has been presented to and endorsed by the Kent County Fire Chiefs with regard to the automatic response levels. The Kent County MCI Plan is consistent with other County and State MCI Plans.

Equipment

Each Medic Unit carries Triage Kits and limited additional supplies to be used for patient care. The Supervisor's unit (KM5) is equipped with an MCI Command Kit to facilitate orderly control of the medical branch of the incident. All units have updated contact lists for local and regional medical facilities. Critical data is kept both in hard copy and electronically in the unit MDT. The Special Operations trailer is equipped to support triage and treatment of up to 50 patients, has its own electrical power supply, and has additional components of the Treatment Area Command Kit, TVI Shelter with air heater unit, Chemical Personal Protection Kits (PPE), and Nerve Agent Antidotes Kits (NAAKs). TANGO-1 may be deployed for additional ALS resources and initial hazmat/radiological survey. The Decon Support trailer may also be deployed for further sheltering and electrical supply. The Mobile Command Post may be deployed for extended operations.

Training

All Medics are trained in START Triage and this skill is supported by monthly "Triage Days" during which all patients are identified with appropriate triage tags. Medics continue to train on the MCI Plan which gives Medics guidelines for determining the level of response necessary and emphasizes the need for the first-on-scene Medic crew to initiate the MCI response. "Trailer Day" drills continue in which all Medics are annually familiarized with the response support units and complete hands-on practical evolutions with the equipment.

Activity

There were no MCI incidents which required the deployment of these additional assets. Units were pre-deployed as required in support of Mass Gathering events.

Needs and Initiatives

1. Continued refresher training through Triage Days and con-eds will maintain current training levels.

These have been added to the 2013 Training Schedule. EMS participated in a full scale MCI/Hazmat exercise in conjunction with DAFB.

2. Further training needs to be accomplished such that all Medics are competent in establishing a Medical Sector at an MCI (Triage, Treatment, Transport).

During training sessions Medics who are less experienced with MCI Command roles are tasked with accomplishing such an assignment. Supervisors are being included in functional and full-scale exercises in compliance with the NIMS.

3. Dedicated towing vehicles should be established such that no on-duty Medic Unit is diverted from direct response to the scene in order to transport a support unit.

This goal has been met with the fleet expansion to provide 2 spare units and the addition through EMA of TANGO-2, an F350 Utility vehicle.

4. Extended Operation and Re-call of personnel capability needs to be demonstrated through practical exercise.

Medics are issued personal pagers for Call-back and OT notification.





Mass Gatherings

Response

The Department prepares for several Mass Gathering activities each year. Notably, the NASCAR races at Dover Downs, the Delaware State Fair, the Bike-to-the-Bay, and the Amish Country Bike Tour present the venues for the largest populations. There are occasionally other events (VIP appearances, DAFB Air Show, Chicken Festival, etc.) which also require Mass Gathering preparations. Operations center on pre-positioning assets and adding staff to cover the particular event. Response may be limited to assigning a Bike Team to the venue or expanded to establishing an entire communications center with dozens of support units on site.

Equipment

The All-Terrain Medical Response remains equipped with one trailer now housing the Bikes and one Medic-Gator and a second trailer which houses a second Medic-Gator. All trailer units can be pre-deployed in support of larger events. These units include the Spec Ops, Decon Support, and Medical Resource Unit (MRU) trailers along with the County Decon Units and TANGO-1. Additional ALS gear sets have been established to support each of these units. The Mobile Command Post is a self-contained communications center which can be deployed to any site as needed.

Training

A number of medics are trained to operate the Bikes and an increasing number trained to operate the Gator (the primary means of covering large venues). All medics are introduced to towing a support trailer.

Activity

The Gator and/or Bikes were used to cover Spring and Fall NASCAR races, Safe Summer Day, and the Governor's Fall Festival. The Spec Ops trailer was pre-deployed for the State Fair.

Needs & Initiatives

- 1. Additional medics have completed IPMBA training.
- 2. A standardized reporting form has been established to address operational needs when requested to cover a large event.



Maritime Response

Response

Kent County's primary response jurisdiction extends well into the Delaware Bay and includes a busy anchorage. Currently the Medics are taken to vessels via VFD Rescue Boats. Occasionally the Coast Guard assists with aviation support.

Equipment

There is no specialized equipment currently in service to support maritime response.

Training

The Little Creek FD has a company specific training available to Medics.

Activity

There has been no maritime response activity.

Needs & Initiatives

Little Creek FD has acquired a much more robust rescue boat. Familiarization with this unit should be included as part of the medic's continuing education.

Hazardous Materials Response (Hazmat)

Response

The Department's response continues to be one component of a multi-agency response plan. Supported primarily and in depth by the Little Creek VFD, the group response for hazmat incidents is currently initiated by a responding fire line officer. The mission of the Hazmat Group remains primarily the provision of decontamination services. Following a request by DNREC and the support from the Department Chief, an expansion of the mission has been to develop a limited number of personnel capable of assisting DNREC in entry operations as a medical component of the entry team.

Equipment

The State of Delaware Hazardous Materials Decontamination trailer, tow vehicle, and the Decon Support trailer remain housed at Little Creek VFD. TANGO-1 operates from KCDPS Headquarters. Due to the adjusted operations in Sussex County, equipment in Kent has been reconfigured to allow a three tiered support response ranging from man-power assist to full team and equipment response.

Training

Regular training sessions are held on the third Tuesday night each month (with few exceptions). As new equipment arrives it is introduced through these regular training sessions. Joint exercises have been conducted with DNREC, the 31st CST, and DAFB. These joint sessions have met with great approval from all concerned and more are planned for the future. Currently there are six Medics trained or awaiting training to the Hazmat Technician level which qualifies them to assist the entry team.

Activity

Decon responses have included more than 15 deployments in support of DSP and DNREC involving "Meth-Labs". The unit(s) participated in displays two times. The units were predeployed in support of the NASCAR races.

Needs & Initiatives

1. Regular training nights will continue. Joint training evolutions with other response agencies should be enhanced.

The third Tuesday of each month has been established as a regular training day for Medics, as well as the evening session at Little Creek.

2. Due to the continued and superlative support from the Little Creek VFD, there exists a lesser demand for Medics to operate the Decon Line. Therefore, Medics are focusing more towards the medical management of hazmat patients and the ToxMedic Protocols have been slightly expanded.

Technical Rescue

Response

The Kent County Technical Rescue Team is spearheaded by the Cheswold FD with support from several Kent County FDs. Currently there are 10 Medics training with the team. Technical Rescue encompasses trench, collapse, confined space, high angle, and swift water rescue operations along with urban search & rescue (USAR). The primary response area is Kent County with assisting teams in New Castle and Sussex counties. The "Second Due" area for the Kent team extends to the Chesapeake Bay including Caroline, Talbot, and Queen Anne counties in Maryland (dual response with Anne Arundel).

Equipment

The team equipment is based at Cheswold FD and Hartly FD and is comprised of a custom heavy rescue unit with additional equipment contained in a support trailer. All rescue operations equipment is compatible with the other two county's equipment. Each team member has a "go bag" with some personalized gear. Some specialized medical equipment has been placed in service. Hartly FD has placed in service a "Light & Air" unit which has been included with the initial response of the Team. This unit also tows the Support Trailer for the Team. TANGO-1 is attached to this team response. Additionally, equipment and supplies are being acquired towards the establishment of a mobile "Base Camp" to address the logistical needs of an extended operation.

Training

The majority of active team members are trained to the Technician level for Trench and Collapse rescue; all are Operations level for all disciplines. Several team members have completed large animal rescue training.

Activity

There was one response assisting Sussex with a trench rescue. There was one response resulting from a tornado in Kent which involved structural shoring. There was one response in Kent resulting from a vehicle into a dwelling which involves structural shoring. The team participates in annual trench and collapse weekend exercises.

Needs & Initiatives

As the team increases in number and equipment inventory, continuing training will have to occur. Exercises testing extended operations and the establishment of a "base camp" will continue.



EOD/SORT Response

Response

Medic Units are routinely dispatched to support EOD/SORT operations. Bomb Technicians are medically monitored before and after entry evolutions. Medics stand by in safe zones for certain law enforcement operations. Tactical Medics operate as integral members of a Tactical Team.

Equipment

Specialized equipment has been obtained for direct support of SWAT Medics. Tactical Body Armor, rescue litters, radio microphone equipment have been added to the inventory. Regular duty body armor and ballistic helmets are standard uniform for all medics.

Training

Five medics completed Basic and Advanced Tactical EMS training and are embedded with the STAR Team in Smyrna and the Milford PD team. All current Kent County Paramedics received refresher briefings regarding EOD operations as part of the 2-year refresher cycle. Medics routinely receive refresher training regarding the assessment and treatment of blast and burn injuries.

Activity

Monthly training with both teams continues. There was more than 50 hours of training activity. There were 12 missions for a total of 60 hours.

Needs & Initiatives

- 1. SWAT Medics are alerted by alpha pager and/or the STAR / Milford phone tree process.
- 2. Additional equipment is being obtained to coincide with the expansion of this program.

3. Re-certification training has begun with one SWAT Medic due for this training each year.

Fire Ground Support

Response

Medics are routinely dispatched to multiple alarm working fires and many "occupied high density residential" locations. Many times this response is merely a stand-by, however it is not uncommon for the Medics to assist in rehab services or conduct medical assessment and monitoring of firefighters.

Equipment

Primary Medic units have Cyanokits as part of the ToxBox inventory and now have a Smoke Inhalation Protocol for fire ground support operations. All of the support trailers have sheltering, heat, and lighting capability. The Special Operations unit "TANGO-1" is in-service and offers a "bridge" in support equipment between the Medic Unit and the support trailers. The Spec Ops trailer has additional IV supplies, cots, sheltering, and heating capability.

Training

Specific training to support the new protocol has been completed. Medics are capable of deploying shelters and other support equipment.

Activity

All volume varies from year to year. Some Fire Departments have added Medics to the initial dispatch for known working building fires or for residential complexes. Weather conditions continue to be a factor during the extremes of heat and cold.

Needs & Initiatives

- 1. The establishment of the "Power Unit" has served to help cover this issue during the daytime hours.
- 2. Once full staffing is accomplished, the additional KM10 unit will also help cover these missions.

All-Terrain Medical Response

Response

The Bikes and Medic-Gator have thus far been pre-deployed to special events. While the units are capable of emergency response, the application of these assets remains as support to inprogress incidents. The units are housed in the ATMR trailers which require transport to the scene.

Equipment

All response vehicles (Crown Vics excluded) are equipped to tow the trailers. A solar battery charging system was installed for the Gator. The additional Medic Gator and trailer are in service.

Training

The Bike Team continues as before with several Medics trained to ride the units. Gator training has been completed and all medics are familiar with Gator unit operation.

Activity

The Gators covered both the Spring and Fall NASCAR races. The Gator was used at Safe Summer Day, the Governor's Fall Festival, and the Amish Country Bike Tour.

Needs & Initiatives:

- 1. Additional training on Gator operation should be conducted to increase the number of qualified drivers. Gator driving should be extended to all Department employees and an MOU should be established to allow VFD personnel to operate the unit under extreme circumstances. Training is scheduled periodically. VFD personnel can be utilized as needed, much in the way they assist in transferring Medic Units from the scene when all Medics are committed to patient care.
- 2. Further training on trailer operations should be conducted and extended to all Department employees to increase the number of qualified drivers.

 Training is scheduled periodically.

WMD / Terrorism Preparedness

Response

General ideology suggests that response units will most likely not know ahead of time that an incident is an act of terrorism or involves WMD. Therefore, all responders must be capable of adapting operational modalities in response to information as it is acquired. Specialized equipment will be utilized as the situation warrants.

Equipment

Personal "Escape Ensemble Kits" are available on each unit which include chemical protective suits and air purifying respirators. Ballistic helmets, goggles, and NIJ Level II body armor are now part of the standard uniform. Tox-Boxes are in-service which provide NAAKs (nerve agent antidote kits) for medics and patients and additional pharmaceuticals for those medics who can function under the ToxMedic Protocols. Four of the five support trailers in the department carry additional WMD response equipment and supplies. The First-On-Scene response guidelines include a "Bomb Response" checklist and related reference materials. Each Medic Unit is equipped with a radiological response kit and a GammaRAE detector for early warning of a radiological event. Carbon Monoxide detectors have been added to the Medic standard equipment. Two RAD 57 carboxyhemoglobin detectors have been put in service and have proven to be valuable tools in triage of multiple carbon monoxide exposure patients.

Training

"Trailer Days" are included in the annual con-ed schedule in which all Medics practice with the response support units and complete hands-on practical evolutions with the equipment. A hands-on training for radiological response has been added. AHLS courses are made available to all Medics as they are scheduled.

Activity

There was no identified activity in response to WMD / Terrorism. There were several CO responses in which the arrival of the Medics (and the CO detectors) was the first indication of potential poisoning.

Needs & Initiatives

1. Refresher training in the use of PPE and "escape kits" needs to be conducted. Each Medic should demonstrate proper use of this equipment.

Incorporated into "Trailer Day" con-ed sessions.

2. Awareness and Operational level concepts and procedures for WMD response should be revisited through in-service review and printed distributions.

This is accomplished through periodical publications.

Conclusion

Situational Assessment

Incidents involving some form of Special Operations response continue to occur at a manageable frequency, however primary Medic Units are being committed to these incidents for longer periods. Several annual event venues present significant challenges to the department's operations. The department has continued response roles both locally and regionally. The possibility of a disaster, natural or man-made, is as present as ever.

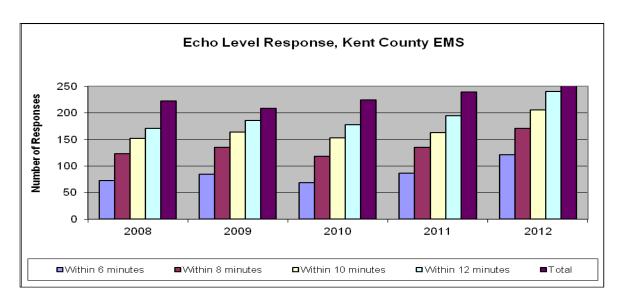
The establishment of TANGO-1, a multi-purpose response unit has enhanced the response capacity of the Department. This unit is not currently staffed around the clock.

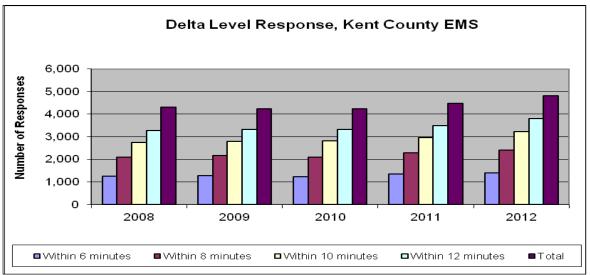
Vulnerability

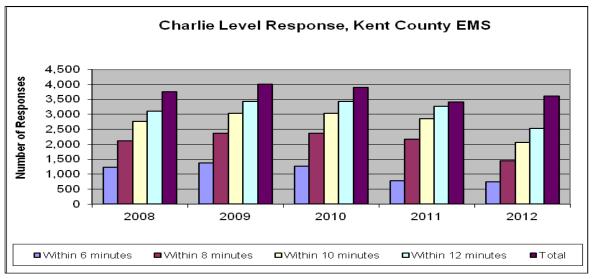
Training and exercise has increased awareness and response capability as compared to previous years, thus reducing the vulnerability of the individual responder. Geographically Kent County remains central to several major metropolitan areas of national significance. Complacency as a result of low utility presents the greatest controllable risk factor. A comprehensive Delaware / Kent County threat/vulnerability assessment is updated periodically through State initiatives.

Capability

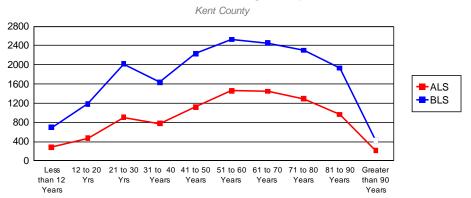
The establishment of a "Special Operations" designation as part of an employee incentive program has swelled the number of medics intent on participating in some level of Special Operations. Providing training opportunities to support this interest is challenging. Resources continue to expand and develop to provide flexible response modalities and increased capability. A Statewide and Regional capability goal needs to be established.



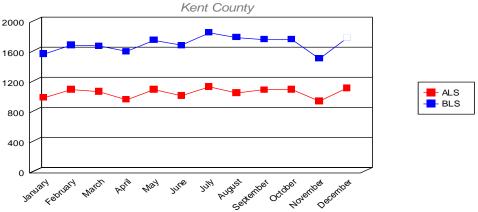


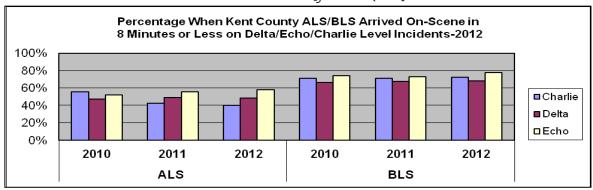


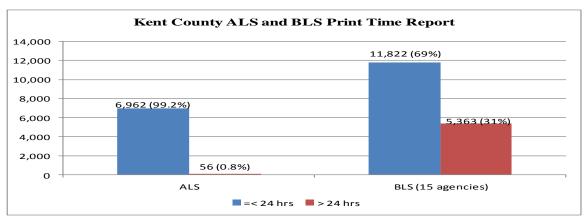
ALS and BLS Patient Age Comparison-2012



ALS/BLS Incidents by Month-2012







2012 Kent County BLS Scratch Report					
		Total	Scratch		
Station	Scratches	Runs	Percent		
Bowers Sta 40	15	373	4.0%		
Camden-Wyoming Sta 41	90	2508	3.6%		
Carlisle Sta 42	71	2785	2.5%		
Cheswold Sta 43	58	1743	3.3%		
Felton Sta 48	18	1245	1.4%		
Frederica Sta 49	9	461	2.0%		
Harrington Sta 50	26	1904	1.4%		
Hartly Sta 51	15	766	2.0%		
Leipsic Sta 53	19	302	6.3%		
Magnolia Sta 55	8	966	0.8%		
Marydel Sta 56	34	487	7.0%		
Dover AFB Sta 58	0	127	0.0%		
Prime Care Sta 63	0	6599	0.0%		
Smyrna Amer. Legion Sta					
64	143	3109	4.6%		
Total	506	23375	2.16%		

Kent County

Basic Life Support (BLS)

Submitted by various BLS agencies within Kent County

Kent County is comprised of 18 volunteer fire companies and one volunteer ambulance company, the Smyrna American Legion. The Smyrna American Legion's ambulance responds on BLS runs within the Citizen's Hose fire district. Other fire districts, which do not operate BLS services in Kent County, are: Farmington, Houston, Little Creek, South Bowers, and Robbins Hose. Mutual Aid agreements exist with boarding fire companies to supply ambulance service to these districts or contracts with private ambulance companies.



Communication Center

Kent County
Submitted by Kent County 911

The Kent County Emergency Communications Center receives 911 calls through a variety of phone exchanges through Kent County, Northern Sussex County and Southern New Castle County. The total number of 911 calls processed in year 2012 was 94,831. Another 63,421 non-emergency calls were also processed by our dispatchers. The Center dispatched or processed 23,583 medical incidents and 5,897 fire incidents in year 2012.

The Kent County Emergency Communications Center is recognized as an Accredited Center of Excellence in Emergency Medical and Fire Dispatch by the National Academy of Emergency Dispatch. In 2012, through our Quality Assurance Section we achieved 97.44% on Case Entry; 98.31% for Chief Complaint; 98.67% for Key Questions Processing; 95% for Pre-Arrival Instructions; 98.94% for Post Dispatch Instructions; 98.22% for Final Coding and an overall average score of 98.30%.

The Kent County Emergency Communications Center operates 24 hours a day on a year round basis. We provide Fire/EMS Communications to 18 Volunteer Fire Companies, two EMS Companies and the Kent County Paramedics. The Center is staffed with 21 Fire/EMS dispatchers and an administrative staff of three personnel. The Delaware State Police Communications "KentCom" is also located in the Center with staffing of 24 Police dispatchers.

In 2012, we accomplished upgrading our 911 Dispatch Center from 14 to 18 fully operational consoles to include an area for consolidation of County and State Police call taking activities and improved our fold-down capabilities for other communication centers to fold-down. Rebanding of the State's 800 MHZ radio system began in early 2012, and is a federally mandated effort to stop interference with public safety 800 MHz radios from the Sprint wireless network. Re-banding is being completed in two phases, thus far phase one has been completed and each radio must be reprogrammed for a second time in 2013. Another accomplishment achieved in 2012 was narrow-banding of our paging system which was required by the F.C.C. In an effort to promote greater spectrum efficiency, the FCC required all Public Safety Agencies using 25 kHz VHF and UHF radios systems to migrate to a minimum of 12.5 kHz efficiency by January 1, 2013.

Two major goals that we still face today are Texting to 911 and the implementation of Broadband for Public Safety Agencies. Text-to-911 is the ability to send a text message to 911 from your mobile phone or handheld device. In the proposed F.C.C. rules, all wireless carriers, including certain providers of text messaging applications, such as iMessage, must make it possible for customers to send text messages to 911 to receive emergency help. The four largest wireless carriers have already voluntarily committed to make texting to 911 possible by May 15, 2014. Following the terrorist attacks on September 11, 2001, the 9/11 Commission recommended the establishment of a nationwide, interoperable public safety communications network to resolve communication challenges faced by emergency responders. For the past decade, public safety worked with State and local government officials, the Federal government, and Members of Congress to amass support for a nationwide network. On February 22, 2012, President Obama signed into law H.R.3630, the "Middle Class Tax Relief and Job Creation Act

of 2012" Title VI of H.R. 3630, entitled "Public Safety Communications and Electromagnetic Spectrum Auctions," includes provisions to fund and govern a Nationwide Public Safety Broadband Network.

Two of the biggest challenges Kent County has twice a year is the NASCAR Race and the Delaware State Fair in July. The NASCAR event brings over 130,000 people to our County. Starting on Thursday of the race week Kent County provided trained dispatchers to answer and dispatch EMS/Fire calls to the emergency responders that are working the event. The Delaware State fairgrounds encompass over 300 acres and features concerts, agricultural exhibits and other typical state fair demonstrations and events. During this 10 day event over 200,000 people visit the Fair.

The Kent County Emergency Communications Division also maintains an Incident Communications Vehicle for on-scene command and control of emergency operations, thus allowing the County Public Safety Answering Point (PSAP) to continue with normal dispatching functions. Maintained in a constant state of readiness at the Kent County Department of Public Safety Building, the Incident Command Vehicle may be utilized at Fire/EMS and police emergencies, civil disturbances, natural disasters and other scenes where emergency & tactical communications are needed. The Incident Command Vehicle is self-sufficient with its on-board generator, heater, air conditioner, computer aided dispatch system, high-band paging system, cellular modem dial up, cellular telephones, 800 MHz radio communications, recording capabilities and a radio inter-operability system.



Submitted by Kent County 911



1970's 911 Center Submitted by Kent County 911



Submitted by Kent County 911

Sussex County

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Sussex County Emergency Medical Services

Caring People, Quality Service

Overview

In 2012, Sussex County EMS (SCEMS) celebrated twenty one years of providing Advanced Life Support (ALS) Service to the residents of, and visitors to, our community. We provide paramedic service to an area of nearly 1,000 square miles, including all of Sussex County and a portion of Kent County (primarily Milford), using eight specially designed ALS rapid response vehicles, each staffed by two paramedics, and overseen by two District Supervisors. During the summer tourist season, an additional paramedic unit is placed into service to assist with the high volume of calls, particularly in the beach areas. Our paramedic staff is supported by administrative, clerical, technical support, and information systems personnel to ensure a constant state of readiness throughout the year. We work closely with fire department-based Basic Life Support (BLS) services, volunteer ambulance services, local hospitals, state and local police, and private aeromedical services, as well as taking part in the Delaware Statewide Paramedic Program.

"Caring People, Quality Service" is not only our slogan, but our commitment to the people of Delaware and to each of our patients.

Mission Statement

Sussex County EMS is:

A nationally recognized leader in mobile health care services committed to improving your quality of life.

We will accomplish this through:

- •Quality, compassionate patient care
- Continuous quality improvement
- Proactive planning
- •Innovative technologies and procedures
- •The full spectrum of emergency medical services
- •Comprehensive education and training for our personnel and the public

We value:

- Kindness
- Professionalism in action and in attitude
- Respect, dignity & politeness
- A supportive, productive work environment
- •Continuing education for personal and professional growth
- Honesty, trust, integrity in all our actions
- •Individual creativity, initiative, and responsibility
- Fiscal responsibility
- Public trust and support

2012 Accomplishments

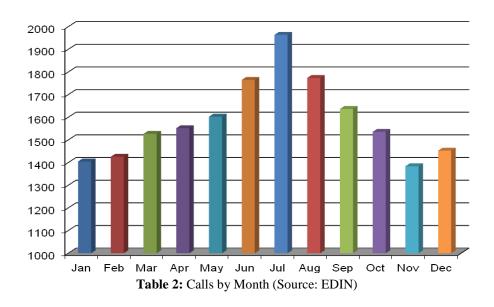
Field Operations

Call Volume: Sussex County EMS experienced a 6% increase in responses in 2012. Over the past ten years, SCEMS has experienced a 53% increase in the number of responses to calls for service. Our department has eight paramedics units in service 24 hours a day strategically positioned throughout the county in an attempt to minimize response time to calls for service.

2012 Incident Responses		
Unit	Responses	
EMS 100 (Eastern Supervisor)	825	
EMS 200 (Western Supervisor)	543	
Medic 101 (Lincoln)	1979	
Medic 102 (Laurel)	2081	
Medic 103 (Dagsboro)	2142	
Medic 104 (Lewes)	2925	
Medic 105 (Millville)	1882	
Medic 106 (Long Neck)	2117	
Medic 107 (Bridgeville)	2265	
Medic 108 (Georgetown)	1848	
Medic 109 (summer "Power Unit")	133	
Other	95	
Total	18,835	

 Table 1: Incident Responses by Unit (Source: Sussex County CAD)

Due in large part to Sussex County's status as a summer vacation destination, SCEMS sees a substantial increase in call volume during the summer months, especially in the beach areas. Again this year, the roaming power unit, Medic 109, was put in service to help cover higher demand on summer weekends.



Hurricane Sandy: Along with much of the eastern seaboard, Sussex County braced for the impact as Hurricane Sandy was forecast to pass directly over the County as a Category 3 hurricane in late October. Emergency preparedness plans were initiated and the Sussex County Emergency Operations Center was staffed by members of the emergency preparedness community, including SCEMS employees, for three days. Although, Sussex County did not receive the significant damage as originally forecasted, the storm served as an excellent opportunity to test several of the lessons learned from the snowstorms of early 2009. Communications is always a challenge during major events. After the storms of 2009, we developed our Storm Deployment Operational Guideline. The new guideline was used and guided personnel from 72 hours pre-event to post-event activities. In addition, SCEMS Operations/Logistics staffs were deployed to the Paramedic Headquarters where they served as a liaison between the EOC and field staff. SCEMS was able to flexibly deploy units as necessary and placed their Cessation of Response Plans into play, although the winds never reached a level that prevented response to a 911 call. SCEMS and Sussex County Public Information Officers made extensive use of social media sites such as Facebook and Twitter in an attempt to keep the public informed of the approaching storm.



Figure 1: Satellite image of Hurricane Sandy (source: NASA)

Special Events Coverage: SCEMS provided EMS coverage for numerous special events including Return Day, Punkin Chunkin, Apple Scrapple Festival and the July 4th Celebrations utilizing both traditional crews and paramedic bike teams. The July 4th weekend is the busiest weekend of the year for emergency responders in Sussex County. SCEMS deployed several additional units to cover the numerous holiday celebrations in Rehoboth Beach, Bethany Beach and Laurel.



Figure 2: Bike Medic provides medical support during Return Day (Source: SCEMS)



Figure 3: SCEMS bike medics complete annual IPMBA training (Source: SCEMS)



Figure 4: SCEMS Special Events coverage for Bethany Triathlon (Source: SCEMS)

Hazardous Materials Team (HazMat): The Sussex County EMS HazMat Team is part of the department's Special Operations Division. This specialized group of paramedics is responsible for maintaining competency and preparedness for hazardous materials incidents within Sussex County and neighboring jurisdictions. The team consists of twenty field paramedics and various supporting administrative personnel. Each of the team members are trained to the HazMat Technician level and have received specialized training in MCI, toxicology, environmental monitoring, decontamination, and ICS.

In 2012, the Sussex County EMS HazMat Team conducted four in-house training exercises to further hone their skills and enhance their preparedness. The Delaware State Fire School provided a one-day HazMat Technician refresher training to the team and four members completed the Fire School's week-long course. Members of the team also provided content to the department's continuing education in regards to toxicology and hazardous material awareness.

The Sussex County EMS HazMat Team participated in the annual Beebe Medical Center disaster dill in May. Team members provided an overview of the team's capabilities and gave a short tour of equipment. During the disaster drill, team members observed and provided constructive feedback on decontamination procedures with discussion in regards to interoperability.

In 2012, Sussex County EMS HazMat responded to several incidents involving clandestine methamphetamine labs where our personnel provided medical and decontamination support. We also assisted Department of National Resources and Environmental Control (DNREC) personnel with direct hazard mitigation.

Fred Haas and Jay Shine, of the Sussex County EMS HazMat Team, presented at the International Hazardous Materials Response Teams Conference in Baltimore, MD a presentation entitled "Implementing a ToxMedic Program in Your Agency" focused on community risk assessment, required education and competencies, funding sources, and administrative responsibilities.



Figure 5: Special Operations vehicles (Source: SCEMS)



Figure 6: HazMat Team in operation at Meth Lab incident (source: SCEMS)

Drills and Exercises

Drills: SCEMS participated in drills and exercises with DelDOT, DRBA and local hospitals. SCEMS provided MCI resources such as tarps and cones and provided guidance and direction during the exercises.



Figure 7: Drill with 142nd Aeromedical Evacuation Squadron & 166th Medical Group of the Delaware Air National Guard (Source: SCEMS)

Personnel

Staffing: SCEMS had two paramedic vacancies as of December 31, 2012. Local, regional and national efforts have focused on recruiting Nationally Registered Paramedics from out-of-state. During 2012, SCEMS hired four student paramedic employees from Delaware Technical and Community College's Paramedic Program and six "ready" out-of-state paramedics. SCEMS did not sponsor any new students in the 2012-2013 paramedic program. We have budgeted finds in FY2014 and FY2014 to sponsor three students annually starting in May of 2013 to help with filling vacancies caused by anticipated retirements starting in 2013.



Figure 8: A Shift (source: SCEMS)



Figure 9: B Shift (source: SCEMS)



Figure 10: C hift (source: SCEMS)



Figure 11: D Shift (source: SCEMS)

Competition Team: Once again, the SCEMS competition team competed in the "JEMS Games" held in March 2012 during the EMS Today Conference in Baltimore, Maryland. The team included Paramedics Jill Wix, Andrew Vickers, Jessielyn Woolbright and Kevin Erb. This year's competition included teams from the United States and Australia. During the competition, the EMS teams were judged on their performance and speed during mock patient care situations and scenarios. This year's team placed fourth out of 15 teams and joins other SCEMS teams that have won Gold and Silver Medals in previous competitions. Since 2005, SCEMS teams have earned 2 gold and 3 silver medals in the JEMS Games and have finished no lower than fifth place every year. The 2008 SCEMS Competition team placed third in an international EMS competition in Israel sponsored by Magen David Adom Israel.



Figure 12: SCEMS Competition Team (2012 - 2013) (Source: SCEMS)

Education and Quality Management

Continuing Education: All SCEMS paramedics attend continuing educations sessions held by our Education Department covering both medical and operational topics eight months out of the year.

During our May continuing education sessions, all paramedics received training on "vehicle extrication awareness" at the Delaware State Fire School (DSFS) in Dover. The DSFS created an engaging and challenging day-long class that encompassed the various aspects of vehicle rescue including vehicle construction (especially the hazards), extricating patients with and without rescue tools, crawling in and out vehicles with patients in various trapped positions, and removing patients with the appropriate equipment. DSFS Instructors and our Training Officers worked together to ensure our paramedics performed all tasks safe manner.



Figure 13: SCEMS paramedics participate in vehicle extrication awareness class (Source: SCEMS)

Daily Training: In addition to these didactic sessions, paramedics complete required daily training delivered via the county intranet. Topics are created by field paramedics and are submitted for approval to be distributed to all clinical staff.

Simulator Program: In this program, all field paramedics are evaluated using scenarios in the simulator lab to assess their ability to make critical patient care decisions. The goal is to have all paramedics be evaluated in the Simulation Lab twice a year.

CARES Registry: Sussex County EMS began participation the CARES Registry in November of 2011 and continued that participation through 2012. The CARES Registry is a Cardiac Arrest Registry to Enhance Survival (CARES) was initiated in October 2004 as a cooperative agreement between the Center for Disease Control and Prevention (CDC) and the Department of Emergency Medicine at Emory University School of Medicine to identify incidents of prehospital cardiac arrest. The CARES Program is designed to consolidate all essential data elements of a prehospital cardiac arrest event in an efficient manner. With this standardized collection system, participants can track ongoing system performance in several, tailored reports. We are currently analyzing data from CARES in an attempt to improve our response to out-of-hospital cardiac arrest. Preliminary 2012 data shows survival rates well above the national average.



Figure 14: CARES Registry Logo (Source: CARES)

Equipment and Logistics

Cardiac Monitor Replacement: With Sussex County Council and DEMA Homeland Security Grant program funding, we replaced 33 Physio Control LifePak 12 heart monitor/defibrillators that were past the manufactures date of support.



Figure 15: LifePak 15 cardiac monitors (Source: Physio-control)

Paramedic Station 106: SCEMS will be purchased property and began construction of a new Station 106 in Long Neck breaking ground on December 4, 2012. The station is expected to be completed by May 31, 2013.



Figure 16: Shovel used for groundbreaking ceremony (Source: SCEMS)

Infrastructure: With the assistance of DEMA Homeland Security Grants, we completed our emergency power generation project by installing generators at Station 104 (Rehoboth), Station 102 (Laurel) and Station 200 (Blades). This completes the multiyear initiative to have the paramedic stations equipped with back up electric power. The nine department emergency power generators are remotely monitored by the county Engineering department to maintain operational readiness.



Figure 17: Emergency power generator at a paramedic station (Source: SCEMS)

2013 INITIATIVES

Personnel

Recruiting and Retention: SCEMS entered 2013 with five paramedic vacancies and no sponsored student-employees in the Delaware Technical and Community College Paramedic Program. Over the past five years, SCEMS has had a mean attrition rate of six paramedics per year. We are entering a difficult period where 22 of our paramedics are or will be eligible for retirement in the next six years. It is conceivable that once retirements start, our vacancies will be double digits for several years. However, there is light at the end of the tunnel as the anticipated retirements will taper off to only a few a year after November of 2018.

In an attempt to combat these loses, we will hold interview sessions bi-monthly throughout 2013, as we are advertising in JEMS magazine and on the JEMS website. We will be recruiting at the EMS Today (JEMS) Conference in Washington, DC and we are also actively recruiting at the many of the local and regional paramedic training centers. Additionally, we have reinstituted funding in our FY2013 budget and proposed 2014 budget in an effort to attract and hire more "locals" and sponsor them in the Del Tech Paramedic Student program.

Education of BLS: Since the early 1990's, SCEMS has offered the Medic Assist course to BLS companies. This course is designed to train EMTs to assist paramedics in the performance their ALS skills. As examples, the course includes preparing IV bags for use by the paramedic and correctly placing ECG leads on the patient. SCEMS has recognized that the BLS providers could benefit from more exposure training so it is beginning to offer several other courses to the local volunteer fire and EMS departments. These courses are directed primarily towards Mass Casualty Management and Fire Ground Rehab.

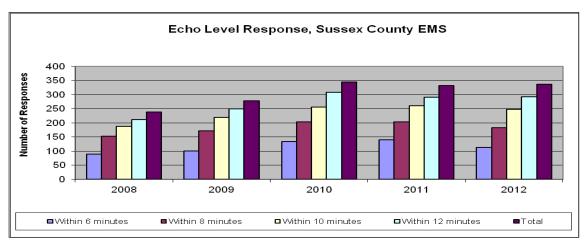
Vehicle Replacement: We will begin a multi-year vehicle replacement program to upgrade our existing fleet to a smaller, more fuel-efficient vehicle. Over the past year, a work group consisting on field paramedics and administrative staff, have developed the specifications for this vehicle that satisfies our mission while maintaining crew safety.

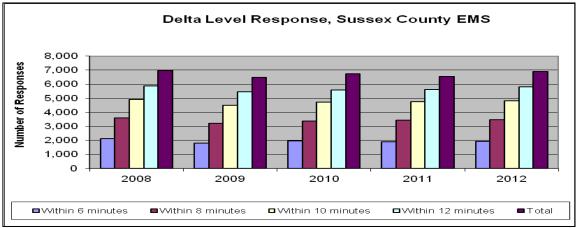
Station 104 Replacement: We will begin the search for suitable property to erect a new paramedic station in the Lewes / Rehoboth Beach area. For many years the current station has been located in the Storage Solutions building on Route 1 in the Midway area. This location has proven not to be optimal due to difficulty accessing Route 1 and is becoming unaffordable.

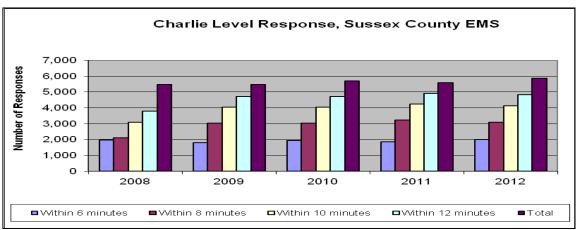
Tablet Computers: We will begin a multi-year initiative to purchase tablet computers to be used by our paramedics for the new patient care reporting system implemented by the State of Delaware Office of Emergency Medical Services. This will allow paramedics to begin the documentation of patient care during treatment and transport of the patient instead of having to wait until arrival at the receiving facility.



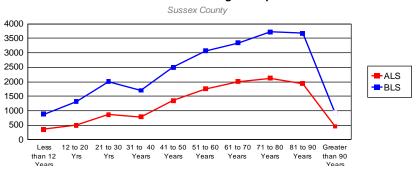
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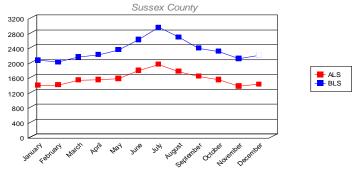


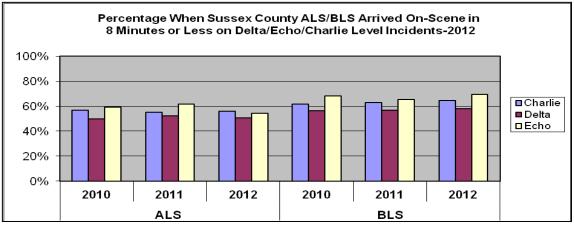


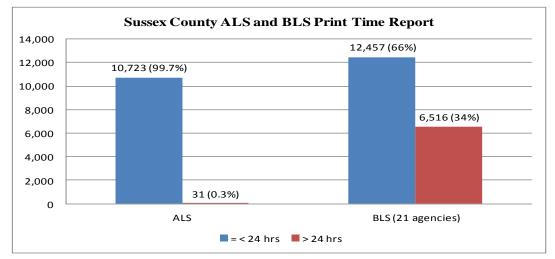
ALS and BLS Patient Age Comparison-2012



ALS/BLS Incidents by Month-2012







2011 Sussex County BLS Scratch Report						
Station	Scatches	Total Runs	Scratch Percent			
American Legion	0	1	0.00%			
Bethany Beach	6	644	0.93%			
Blades	27	647	4.17%			
Bridgeville	23	761	3.02%			
Dagsboro	25	487	5.13%			
Delmar	15	1425	1.05%			
Elendale	13	713	1.82%			
Frankford	10	213	4.69%			
Georgetown	136	2390	5.69%			
Greenwood	8	529	1.51%			
Gumboro	10	242	4.13%			
Indian River	84	2092	4.02%			
Laurel	54	1600	3.38%			
Lewes	11	2457	0.45%			
Memorial	1	53	1.89%			
Mid -Sussex	0	1	0.00%			
Millsboro	195	1929	10.11%			
Millville	85	1523	5.58%			
Milton	2	736	0.27%			
Roxana	39	831	4.69%			
Selbyville	13	375	3.47%			
Total	757	19649	3.85%			

Sussex County

Basic Life Support (BLS)
Submitted by various BLS agencies within Sussex County

Sussex County is comprised of 21 volunteer fire companies and two volunteer ambulance companies. The Georgetown American Legion responds on BLS calls within the Georgetown Fire District and the Mid-Sussex Rescue Squad responds on BLS runs within the Indian River Fire District.

Bethany Beach Volunteer Fire Company

On May 12th, 2012 the BBVFC Emergency Medical Services held its 2nd Annual EMS Day Open House at the fire station on Hollywood Street in Bethany Beach. The event was well attended and again considered a success. Representatives from our neighboring fire companies, Sussex County Emergency Medical Services, Delaware State Police, Life Net, Bethany Beach Police Department, Office of Highway Safety, Beebe Medical Center, Atlantic General Hospital, Delaware State Fire School, and DEMA attended. Bethany Blues restaurant provided the food again for the event. PNC bank sponsored the EMS Day T-shirts, which were free to the public.







Laurel Fire Company

Accident - "On the morning of July 11th the LFD, along with SCEMS, and Trooper 2 were dispatched for a MVC involving a motorcycle. First arriving Paramedics along with Laurel EMS found two priority 1 patients, with CPR in progress on one of them. Fire/Rescue personnel arrive and assist with patient care. EMS personnel along with off duty Nurse were able to successfully resuscitate the operator of the scooter. He was transported by Laurel EMS to NMH-ER. His passenger was flown by Trooper 2 to Christiana Care. The operator of the pick-up refused treatment. The incident was placed under control shortly after turning scene over to DSP. Asst. Chief Keith LeCates had command of the incident."It should be noted that the individual that was in cardiac arrest was a confirmed save and was able to leave the hospital 38 days later.

Breast Cancer - Laurel Fire Department sold T-shirts this past October to show support for Breast Cancer Awareness. Our paid crews wore the shirts from October 1 - October 31.







Sussex County Emergency Communication Center

The Sussex County Emergency Operations Center / Fire and Ambulance Callboard employs 20 full time Fire / EMS Dispatchers, 1 Quality Assurance Supervisor, 1 Assistant Chief Dispatcher, 1 CAD tech and a Director.

Fire Service Mobile Project: Working with the CAD vendor to deploy Mobile Data Terminals to the volunteer fire service in Sussex County that will interface with the CAD system to provide the latest technology as well as providing the field units more information in the apparatus which includes driving directions, automatic vehicle location, and touch screen status update.

Computer Aided Dispatch System: We are currently in the process of an upgrade of the CAD system to the latest software and hardware technology to meet the growing needs in Sussex County. This upgrade also includes the latest software "Paramount" for EMS / Fire Call-taking using the Emergency Medical/Fire Priority Dispatch System. The Center is also working with the Mapping and Addressing Department to keep the maps current by doing bi-monthly map updates to the system.

EMS Mobile Project: The Center continues to support the Sussex County EMS with Mobile Data Terminals, which operate in the same function as the fire service mobiles.

Beta Test Site: Sussex County Emergency Operations Center / Fire and Ambulance Call Board, continues to be a Beta Test Site for TriTech Software Systems. Sussex is also a Beta Test Site for the National Academies of Emergency Dispatch. The site tests protocol changes and updates along with the testing for new protocols.

Diversion Reports: The Center compiles a diversion report for the three (3) hospitals in Sussex County as well as the two (2) hospitals in Maryland that border Sussex County. As of March 11, 2013, the updated statewide Diversion Policy was implemented in Sussex County.

Re-accreditation: The Center is accredited until 2015. We continue to work towards meeting the standards set by the National Academy of Emergency Medical Dispatch.

Dispatcher Incentives: "The Fiscal 2011 Budget changes the parameters for the incentive program provided to the dispatchers. The amount of the incentive will be increased from \$300.00 to \$375.00, with a maximum of \$750.00 per year. This program will provide a reward for dispatchers who meet the National Academy of Emergency Medical Dispatch (NAEMD) performance level on each of the various required judged items. This program rewards employees who maintain a high level of competence in responding to emergency calls, which in turn enables the Sussex County Emergency Operations Center to maintain its certified status. The Fiscal 2011 Budget again includes funding for shift differential pay for Emergency Communications Specialists who work the night shift. This supplemental fee of 75¢ per hour is comparable to what the State of Delaware offers their dispatchers, as well as that of other counties."

Regional Training Facility: The Sussex County Emergency Operations Center continues to maintain our status as a Regional Training Facility for the National Academy of Emergency Dispatch, offering the Emergency Tele-communicator Course (ETC), Emergency Medical Dispatch (EMD), and other training for the entire region.

Continuing Education: Sussex continues to provide a variety of continuing education classes to assist the dispatchers with their jobs. The courses are taught by our staff as well as various agency representatives, physicians, medics, and others that interact with our agency. To assist the dispatchers with continuing education and pertinent information, we have launched an internal website which lists current assignments, protocol information, health and fitness information, as well as many other subjects relative to the dispatcher or their position.

Rehoboth Beach Communication Center

Submitted by Dawn Lynch

The Rehoboth Beach 911 Communications Center receives 911 calls through phone exchanges and cell towers in the Rehoboth area. The total number of 911 calls processed in year 2012 was 5,443. Another 27,857 non-emergency calls were also processed by our Telecommunicators. The Center dispatched and/or processed a total of 2,855 EMS Incidents, 694 Fire Incidents, 5,071 Police Incidents, and 2,872 traffic stops in the year 2012.

The Rehoboth Beach 911 Communications Center was recognized as an Accredited Center of Excellence in Emergency Medical Dispatch by the National Academy of Emergency Medical Dispatch on April 1, 2003 as the 79th agency in the world accredited; and then, re-accredited in August 2010 through 2013. In 2011, the Center's overall EMD compliance rate was 96.95%.

The Rehoboth Beach 911 Communications Center operates 24-hours a day on a year-round basis. We provide Police Communications to the City of Rehoboth Beach and Fire/EMS Communications to the territory of the Rehoboth Beach Volunteer Fire Company. The Center is staffed by eight full-time Emergency Telecommunicators and one Communications Supervisor. The Center falls under the overall direction of the Rehoboth Beach Police Chief.

The Rehoboth Beach 911 Communications Center operates within the Rehoboth Beach Police Station. The Center utilizes a Positron Viper 911 Phone System, Nortel Administrative Phone System, Motorola Centracom Elite Radio System, Verint Recording System, and New World AEGIS CAD System to process calls for service.

Major projects for 2012 focused on revision of the City and Center's Emergency Operations Plans, working with the 911 Administration on upgrades to our CAD System, working with the Division of Communications on preparations for the rebanding of the 800 MHz system. and continuing to work with the State 911 Board to improve GIS Data for the area. We continued to focus on training in 2012; we sent two dispatchers to EMD-Q Update Training, five dispatchers to the National Academy of Emergency Dispatch Navigator Conference, and recertified all Dispatch Personnel in both CPR and First Aid.



Picture submitted by Rehoboth Beach 9-1-1 Center

Seaford 911 Communication Center

Submitted by Anita Bell

The Seaford 911 Center receives approximately 10,000 emergency calls through various administration and 9-1-1 lines and is part of a state wide network of nine PSAP's all working in conjunction with the goal of providing the very best service to our citizens and guests in our community. During 2012, the center dispatched or processed a total of 3,140 fire/ambulance incidents and 9,032 police incidents.

The Seaford 911 Center was initially recognized as an Accredited Center of Excellence in Emergency Medical Dispatch on August 7, 2003, by the National Academy of Emergency Medical Dispatch and listed as the 83rd in the world to become accredited. We were reaccredited in 2006, 2008 and on Dec 22, 2011 through Dec 22, 2014.

Seaford 911 Center operates 24 hours a day, seven days a week. We provide Police, Fire, and EMS communications to the City of Seaford Police Dept and Seaford Volunteer Fire Department and Seaford EMS. Our Communications Center also handles police administrative calls and after hour calls for City Hall. The Communications center is staffed with eight full-time dispatchers, two part-time dispatchers and one Administrator/EMD-Q.

The Seaford 911 Center operates within the Seaford Police Department and recently updated the Communications Center to include 4 dispatch consoles, one of which is a fold down station for the SUSCOM and EOC.



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Delaware Air Medical Services

Introduction

Delaware's Division of Public Health first promulgated regulations for Air Medical Ambulance Services in 1993. The purpose of these regulations is to provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware. It is the further intent of these regulations to ensure that patients are served quickly and safely with a high standard of care. Subsequent revisions in 2001 and 2002 described the air medical service application and state certification process and resulted in the emergence of a well-developed system of air medical transportation in the state.

Currently, private air medical services may apply for any of three levels of State of Delaware interfacility transport certification and/or prehospital certification:

LIMITED STATE CERTIFICATION: Approval

Approval granted following satisfactory completion of the air medical program certification process to an air medical service wishing to provide one-way transport

to or from Delaware only.

FULL STATE CERTIFICATION:

Approval granted following satisfactory completion of the application process to an air medical service wishing to provide point to point transport service within the state of Delaware, in addition to one way transport to or from Delaware.

911 CERTIFICATION:

Approval granted following satisfactory completion of the application process to an air medical service wishing to act as a supplemental resource to the Delaware State Police in carrying out prehospital scene missions in Delaware. These services may also apply for full certification to provide point to point transport service within the state of Delaware and one way transport to or from Delaware.

The initial certification period is three years. Recertification is required every three years. Site visits are done as part of the certification process for services with 911 response certification.

Scene response – The Delaware State Police (DSP) Aviation Section has responsibility for primary scene response throughout Delaware and is certified for full and limited interfacility transport as a secondary mission when needed. Additionally, the following private air medical service is state-certified to be dispatched by the Emergency Operations Centers when DSP is not available to respond to a scene or when more than one aircraft is needed:

• Christiana Care LifeNet, Newark and Georgetown DE

The *Delaware 911 Air Medical Dispatch Process*, which was developed based on proximity of the aircraft to the incident location, is utilized to determine the next due aircraft to be dispatched. **Interfacility transfer** – State-certified private air medical services are utilized as the primary transport services for patients who need to be transferred to a higher or more specialized level of care, either within Delaware or within the region, such as to a Burn Center.

The following private air medical services have full state certification to perform point-to-point interfacility transports within Delaware:

- Christiana Care LifeNet, Newark and Georgetown Delaware
- JeffSTAT LifeNet, Philadelphia Pennsylvania
- MidAtlantic MedEvac, Pottstown Pennsylvania and Hammonton NJ
- PHI for Maryland ExpressCare, Baltimore Maryland
- STAT MedEvac, Baltimore Maryland

The following private air medical services have limited state certification to perform flights bringing patients either into or out of Delaware:

- Christiana Care LifeNet, Newark and Georgetown Delaware
- JeffSTAT LifeNet, Philadelphia Pennsylvania
- MedSTAR, Maryland and Washington DC
- MidAtlantic MedEvac, Pottstown Pennsylvania and Hammonton NJ
- PennSTAR, Philadelphia Pennsylvania
- PHI for Maryland ExpressCare, Baltimore Maryland
- STAT MedEvac, Baltimore Maryland, providing air transport for the Alfred I. duPont Hospital for Children transport team

The following air medical services are available to our state through Mutual Aid agreements:

- Maryland State Police Aviation Section
- New Jersey State Police Aviation Section

2012 Accomplishments

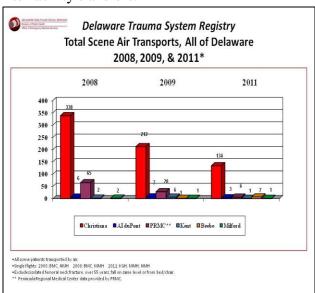
Delaware's air medical system has matured to include eight air medical services providing 24/7 emergency transportation for patients in need of specialty medical care after becoming injured or ill, either initially from the scene, or following assessment at a medical facility. The system has evolved from one part-time service to the current full complement of eight services with the levels of state certification described above.

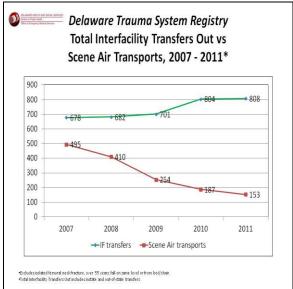
Hallmarks of the development of this system include

- •1985 Delaware State Police Aviation Section Air Medical Services Program initiated.
- •2001 Christiana Care LifeNet Air Medical Program began.
- •2004 Delaware State Police Aviation Program expanded coverage to 24 hours a day, 7 days a week, 365 days a year.

- •2006 Christiana Care LifeNet added a second site and aircraft in Georgetown, Sussex County.
- •2008 DSP increased its capacity through purchase of a Bell 412 aircraft, which can carry more patients and is useful in case of the need for evacuations. It is also used with the Helicopter Emergency Action Team (HEAT).

Below left, annual trauma scene air transports to tertiary care hospitals Christiana, duPont, or Peninsula Regional by number of flights. Below right, comparison of scene flights and interfacility transfers.





2012 Challenges

The Trauma System Quality Committee is continuing to work on analyses of data to determine optimal distribution of patients throughout the Trauma System. This includes methods of identifying the most seriously injured patients, with utilization of air medical transport to move them directly to the Level 1 or Level 2 Trauma Centers from the scene, while triaging less seriously injured patients to the Community Level 3 Trauma Centers. The goal is optimal utilization of the resources of all level facilities so as to avoid overcrowding of our tertiary care centers and underutilization of the resources available close to the patients' homes in the Community Trauma Centers.

Safety issues are a continuing priority of the air medical service providers and of the Office of EMS. All certified air medical services provide updated safety equipment and safety program and procedures information as part of their recertification process. Regular helicopter safety inservices for both scene providers and hospital staff are encouraged.

Summary

The scene and interfacility air medical transport services provided for the most seriously injured patients are an integral part of the Delaware Trauma System. Priorities continue to be safety, efficient and appropriate utilization, and 'Getting the right patient to the right facility in the right amount of time".

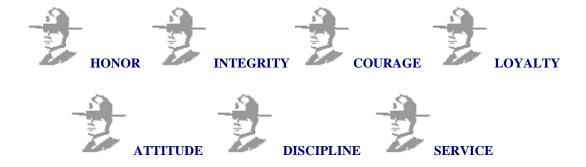
Delaware State Police Aviation Section 2012 DEMSOC Report



MISSION STATEMENT

To Enhance the Quality of life for all Delaware Citizens and visitors by providing professional, competent and compassionate law enforcement

CORE VALUES



DELAWARE STATE POLICE TROOPER'S PLEDGE

Humbly recognize the responsibilities entrusted to me as a member of the Delaware State Police, An organization dedicated to the preservation of property and human life, I pledge myself to perform my duties honestly and faithfully to the best of my ability and without fear, favor, or prejudice. I shall aid those in danger or distress, and shall strive always to make my State and Country a safer place in which to live.... I shall wage unceasing war against crime in all it's forms, and shall consider no sacrifice too great in the performance of my duty I shall obey the laws of the United States of America....and of the State of Delaware.... and shall support and defend their constitutions against all enemies whomsoever, foreign and domestic. I shall always be loyal to and uphold the honor of my organization, my State and my Country.

The Delaware State Police Aviation Section provides effective support services to our law enforcement, medical, and search and rescue communities. As the section's mission expands to encompass the many new demands placed on the Division involving the Homeland Security front, members have been able to incorporate new technologies, add new equipment, undertake and excel in new responsibilities such as the search and rescue mission and maintain the 24/7 expanded hours of operation.



The Aviation Section supports State, Federal and local law enforcement by providing aerial assistance during vehicle and foot pursuits, traffic reconnaissance during large public events and motorcade route security during events involving visiting dignitaries and other important persons. Our section provides criminal reconnaissance and stand-by medical evacuation during high risk warrant executions to all law enforcement agencies operating in our state and surrounding area. The Aviation section also trains with the Special Operations Response Team (SORT), Explosive Ordinance Disposal for volatile situations that would require a rapid tactical insertion. The Delaware Department of Natural Resources and Environmental Protection Agencies also utilize the section for game and environmental violation.



The Section continues its participation in the Open Water Rescue program, which involves a partnership between the State Police, the United States Coast Guard, the Delaware Fire Service, and rescue swimmers from area beach patrols, which is also referred to as the Delaware Air Rescue Team (DART). Aviation, at EMS request, provides air medical transport for seriously injured and ill persons. Organ transplant recipients are also transported, at request, by our section to hospitals within or outside of our State borders.



Delaware Air Rescue Team



JOHN J RANDOLPH © 2011

The following article was submitted by civilian training pilot (Retired DSP Master Corporal/Pilot) Robert McMahon:

Training in the Aviation community is an ongoing endeavor. The Delaware State Police Aviation Section attempts to tailor it's training to meet the various missions of the section. The EMS communities actions dictate what some of the sections training must be geared toward. In 2012 the aviation section in conjunction with The Delaware State Fire School initiated a new three credit course entitled "The Helicopter Awareness" class. The class is taught by a Delaware State Fire School instructor. It has a very flexible curriculum. It can be taught at a DSP hangar or taken on the road for instruction at a fire house or classroom. The original intent of the course was to educate firefighters on the capabilities of the Delaware Air Rescue Team. It became obvious during some of the classes that fire chiefs wanted it to cover helicopter safety and other topics that were specific to the helicopter crews interacting with fire departments.

The Delaware Air Rescue Team is made up of both professional and volunteer fire fighters. The mission of the team is to supplement the two person DSP helicopter crew when a helicopter rescue cannot be accomplished with just two people. The team has extensive training in water rescues,rope rescues and helicopter external load rescues. Missions have included assisting the fire service, the police and the United States Coast Guard.

Helicopter safety and loading procedures made their way into the classes during question and answer periods. As a result, DSFS instructors started dedicating a portion of the class to these topics.

During two of the classes, Life Net was invited to be present and answer safety and loading questions as they applied to their aircraft. Two Life Net crews took the course and were awarded certificates.

In a debrief of a rescue with the Maryland State Police, MSP Instructors were advised of The Helicopter Awareness course offered by the DSFS. The instructors had been looking for ways to educate fire fighters in Maryland to the new loading procedures involved with their new helicopter fleet. They immediately saw the benefit of having fire school instructors teach the course. They hope to introduce a similar course in Maryland in the near future.

During 2012 over 300 fire fighters took the new Awareness class. The main goal of the class was to educate fire fighters in the safe use of a DSP helicopter. Delaware tax payers have an investment in their Aviation Section. It is of critical importance to the training section of The Delaware State Police Aviation Section that the tax payers investment pay dividends. Awareness training of what our aircraft and crews can do is essential to the safe completion of our missions.



The following search and rescue mission debrief reports were submitted by civilian training pilot (Retired DSP Master Corporal/Pilot) Robert McMahon:

Date: 8/5/2012

Times: Dispatch: 0303 hrs.

Respond: 0312 hrs. Arrival: 0328 hrs. Clear: 0409 hrs.

Location: 20573 Roosevelt Street Rehoboth, De in the marsh just south of the waste water

treatment plant

Crew: Pilot: Cpl/3 Stephen Griffin

Paramedic/Rescue Specialist: Cpl. Theodore Stipa

Aircraft: NSP97SP

Command: Harry Miller Rehoboth Fire Dept

Incident: # 17504

On the above date and time, Trooper-2 received a call from Sussex EOC reference a woman that was stuck in the marsh area just S/O of the Rehoboth Waste Water Treatment Plant. The victim

used her cell phone to dial 911. However, her cell phone died prior to the arrival of Trooper-2. Therefore, the crew was not able to use the illumination of the cell phone to assist in locating the victim. Cpl/3 Griffin and Cpl. Stipa loaded the rescue basket into N97SP prior to their departure from Aviation South. Prior to their arrival, Rehoboth Command advised that they could hear a woman's voice in the marsh area. Upon their arrival, Command advised Trooper 2 where the voice was last heard. Due to the swampy / marshy conditions Rehoboth Fire was unable to access this victim. The night sun (spot light) on N97SP was not working; therefore, the crew was unable to illuminate the scene. Cpl/3 Griffin and Cpl. Stipa were using night vision goggles (NVG's) to help, which aided their vision. Cpl/3 Griffin conducted a slow low level pass in the marsh at which time the crew located a woman that was stuck up to her waist in the marsh. The crew advised Rehoboth Command that they located the victim and that they could perform a short haul with the rescue basket. Since the victim was stuck from the waist down she was not able to move to get to the rescue basket. Therefore, the crew placed the rescue basket right beside her, which allowed her to place the top half of her body into the rescue basket. The crew then used the helicopter to free her legs from the marsh. Once becoming unstuck, the victim successfully climbed into the rescue basket. Cpl/3 Griffin then flew the victim to Tower 86 where she was assisted by Rehoboth Firefighters.

Cpl/3 Griffn and Cpl. Stipa never lost focus during this mission. They were able to fly under NVG's into a confined dark area without the assistance of the night sun and successfully located the victim. They formulated and implemented a successful rescue plan. Through their teamwork and ability to use their crew resource management the victim was safely pulled from the marsh. Without Cpl/3 Griffin and Cpl. Stipa's effort many first responders would have had put themselves in harms way by traversing through the marsh.

The victim was debriefed at the scene by Rehoboth PD. According to Sgt. O'Bier RPD the victim was a bridesmaid attending a bridal shower in Dewey Beach. The victim decided to walk back to Silverview Farms; however, she made a wrong turn and got stuck in the marsh. The victim was stuck in the marsh for approx 1 hour prior to help arriving. According to Sgt. O'Bier the victim was not intoxicated.





Date: November 2, 2012

Time: Dispatched: 1751 hrs. On scene: 1805 hrs.

Rescue: approx 1830 hrs.

Location: Canal Banks north side, northeast of Summit Marina

Conditions: Overcast at 3000', winds 330 at 14 gusting 27 (ILG), sunset at 1800

Equipment utilized: Aircraft N97SP, Long line and basket

Trooper 4 Crew: Pilot- Sgt Tom McKeown

Paramedic/Rescue Specialist-Cpl Ron Ferguson

Paramedic in training-Cpl Jen Potocki

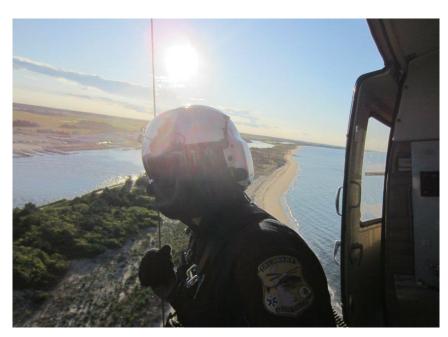
On the above date and time, the crew of Trooper 4 responded to the Canal Banks to search for missing hunters. The hunters were reported to have injuries from a boating related accident however; the extent of the injuries was unknown.

Fortunately, they were located quickly. It was determined that the injured hunter was unable to exit the marsh on his own. Several attempts to land the aircraft were made but the marshy

surface and heavy vegetation made it impossible. Additionally, due to the distance and marshy ground, it was determined that a rescue with the fire department would not be an option. After a short discussion of options, Sgt McKeown and Cpl/3 Ferguson agreed that the best opportunity to get the injured hunter out of the marsh was by utilizing the rescue basket. We chose the rescue basket because the injured hunter was wet and his injuries were unknown.

The crew flew back to the north hanger to set up the rope and the rescue basket. Once the equipment was in place and rescue checklists were complete, we flew back to the scene. During this process it had become dark and we were now completely reliant upon our night vision goggles.

Cpl/3 Ferguson was harnessed in the back of the aircraft with responsibility to guide the aircraft to the patient. Cpl Potocki handled communications with fireboard from the front left seat. Throughout the entire flight, Cpl Ferguson continually communicated vital information necessary for a successful mission. Through most of the rescue the pilot did not have sight of the rescue basket and relied completely on Cpl/3 Ferguson for accurate placement of the basket and tail rotor clearance from trees. Given the windy conditions, it was difficult to maintain consistent altitude and stability over the hunters. It took 5 to 10 minutes to load the patient and once loaded, we moved the aircraft and patient to Liberty Church on Rt 71. Once the patient was safely on the ground, Cpl's Ferguson and Potocki transported the patient to Christiana Hospital via ground transport. The patient was in extreme pain, hypothermic and a full assessment was very difficult in the dark field therefore the warmth and lighting of ground transport was in the patients best interests. This was an extremely challenging flight under NVGs but Cpl Ferguson's detailed and constant communication was the key to success.



Article Submitted by: Wilmington Police Master Sergeant/Paramedic Adam Ringle Outlining the Tactical Medic Program (MOU) Between DSP & WPD









WILMINGTON POLICE DEPARTMENT

MEMORANDUM

To: Christine R. Dunning

Chief of Police

From: M/Sgt. Adam B. Ringle 7061

Tactical/EOD Paramedic 1490

B-Platoon Uniformed Services Division

Date: 8 JAN 13

Re: WPD/DSP Paramedic MOU Report 2012

Ma'am,

This writer is providing this departmental information memorandum to highlight the success of Paramedic Memorandum of Understanding (MOU) between the Wilmington Police Department (WPD) and the Delaware State Police (DSP) as well as to outline the Tactical/EOD Paramedic services provided by this writer throughout the year 2012. The summary of actions is listed below:

TOTAL ACTIVATIONS (including cancels) = 295.0

MEAN ACTIVATION = 1 call every 1.24 days

WPD SWAT (including cancels) = 144

DSP SORT RINGLE = 31

DSP EOD RINGLE = 12

WPD EOD RINGLE = 5

AVIATION SEARCH & RESCUE RINGLE = 4

CALLS RINGLE MUTUAL AIDED TO DSP MEDIC = 32

DSP CALLS MUTAL AIDED TO RINGLE = 47

CALLS WHERE NO MEDIC AT ALL AVAIL = 15

ALS MEDIC/DSP ACADEMY STAND-BY'S = 17

2012 SIGNIGICANT RESPONSES/CRITICAL INCIDENTS

1/12/12- National Guard Station, 1161 River Road, New Castle EOD call-out with suspicious package/possible threat to a person **Medics (Ringle)**

1/16/12- 1013 Park Place, Apt. 2, City of Wilmington Armed/Barricaded subject with hostage in dwelling Subject taken into custody after stand-off **Medics (Ringle)**

1/18/12- 1906 Washington Street, City of Wilmington Armed/Barricaded subject/children present in dwelling Subject taken into custody after stand-off **Medics (Ringle, Aube)**

1/27/12- 1114 Pleasant Street, City of Wilmington Domestic barricade incident Subject taken into custody after stand-off **Medics (Ringle)**

2/26/12- 34806 Sussex Drive, Highland Acres, Lewes Armed/Barricaded subject in dwelling Subject taken into custody after stand-off **Medics (Ringle, Stipa)**

3/5/12 - 32741 Sleepy Hollow Lane, Millsboro Armed/Barricaded subject in dwelling Subject taken into custody after stand-off **Medics (Ringle, Brown)**

3/10/12- Russell Dining Hall, U of D Campus, Newark Suspicious package/device, several hour EOD call-out Device non-explosive, scene rendered safe after hands-on **Medics (Ringle)**

3/23/12- 36 West Clark Avenue, Milford Barricaded subject in dwelling Subject taken into custody after several hour stand-off Subject engaged with less lethal, injured **Medics (Ringle, Aube)**

4/14/12- 201 South DuPont Street, City of Wilmington Barricaded subject in dwelling Subject taken into custody after several hour stand-off **Medics (Ringle, Connelly)** 4/20/12- 1000 Pecan Avenue, Milford Armed/Barricaded subject in dwelling

Subject deceased after several hour stand-off

Medics (Ringle, Pragg)

4/30/12-503 N. DuPont Street, City of Wilmington

Several hour EOD call-out where various chemicals and explosive materials/Devices were recovered from a basement of restaurant

Medics (Ringle, Baxley, Connelly)

6/16/12- Trooper 2, Sussex DART/HEAT Activation

Air-rescue activation for assistance

Cancelled while enroute to scene

Medics/SAR (Ringle)

6/22/12- 24311 Reynolds Pond Road, Milton & Dover Toll Plaza

24-hour Domestic Rape Suspect tracking/mobile call-out where suspect changed vehicles and traveled between PA and DE to avoid being captured while being tracked

Medics (Ringle)

6/26/12- Cape Henlopen State Park/Trooper 2 DART/HEAT Activation

Air-rescue activation for assistance

Cancelled while enroute to scene

Medics/SAR (Ringle, Trooper 4)

6/29/12- Tyler McConnell Bridge Trooper 4 DART/HEAT Activation

Air-rescue activation for assistance

Cancelled while enroute to scene

Medics/SAR (Ringle, Stipa)

7/25/12- Lewes DART/HEAT Activation, 2nd aircraft/SO Requested

Air-rescue activation for assistance

Cancelled upon arrival at LZ/pick-up point Station 4 Odessa

Medics/SAR (Ringle)

8/27/12- 30112 Big Marsh Court, Bethany Bay, Millville

Armed/Domestic barricade incident

Subject taken into custody after stand-off

Medics (Ringle, Stipa)

9/5/12- 3082 Deep Grass Lane, Houston

Active Meth-lab warrant execution full PPE

Subject taken into custody/DEA/HAZMAT/DENREC

Medics (Ringle, Branch)

9/5/12- 245 Kentwood Drive, Dover

Barricaded Subject with significant history

SORT made entry after several hours

Subject GOA

Medics (Ringle, Stipa)

9/16/12- 1626 Lancaster Avenue, City of Wilmington Armed/Barricaded Subject in dwelling Subject taken into custody after stand-off **Medics (Ringle, Connelly, Stipa)**

10/3/12- 707 Green Winged Trail, Camden-Wyoming Armed/Barricaded Domestic Incident in Dwelling Shots fired/weapon produced at officers Subject taken into custody after long stand-off Subject critically injured/survived & transported to KGH **Medics (Ringle, Branch)**

11/2/12- 76 Polly Drummond Hill Road, Newark Armed/Barricaded Suicidal Subject in vehicle Subject taken into custody after brief stand-off **Medics (Stipa)**

11/6/12- 812 Bennett Street, City of Wilmington Armed/Barricaded Subject in dwelling Subject taken into custody after stand-off **Medics (Connelly, Stipa, Ringle** *delayed vehicle change*)









(Pictures from DSP SORT Meth-Lab Entry on 9/5/12 in Houston)

Snapshot Comparison

Since our program began in 2008, we have experienced a steady increase for calls for service between 10-12% annually. In 2011, our total activations were 210.0 and this was our busiest year until 2012. Our 2012 total from page one of this report was 295.0 total calls. This is an increase of 40% over 2011. Our other previous record was total activations in a single month, which was 35 and occurred in September 2011. In August of 2012, we surpassed that mark with a total number of activations in a single month at 39.

Critical incidents also went up a total of 38% from fourteen in 2011 to twenty three in 2012. This writer responded to 22 of the 23 critical incidents in the state as listed above, maintaining a nearly 100% response ratio for priority 1 calls for service. Of the 23 critical incidents in 2012, seven of them were barricades within the City of Wilmington. This is an alarming 600% increase from 2011 where only one barricade was within the City of Wilmington.

Medic Stand-by activity for academies, physical agility testing, training or EOD breaching also saw a large increase of 120%. In 2011, we had a total of five stand-by's and in 2012, we had a total of 12 stand-by's.

With such large increases in calls for service, the number of "scratches" where no medic from either agency was available also saw an increase by 50% between 2011 and 2012. In 2011 there were 10 calls where no medic was available and in 2012 there were 15 calls that went unanswered by a tactical medic.

Training

In addition to the calls listed above for service, this writer attended all Paramedic didactic and clinic training required by the State of Delaware, successfully completed CONTOMS SWAT-MEDIC School, class #113 (pictured below), TCCC Tactical/Combat Medic Training Program in New Orleans, LA and attended several multi-agency training drills. This writer successfully completed the Helicopter Technician System Operator/Rescue Specialist annual recertification program required by the Delaware State Police Aviation Unit and also attended several continuing education modules on various topics and maintained all required instructor credentials in BCLS, ACLS, PALS, ABLS and AMLS.



Contoms Class #113 Graduation Us Park Police Washington D.C.





EOD Medic Training and Equipment Testing Jan 2012





Helicopter/Air Rescue Recertification Training 2012

Special Projects

This writer has been working with Nelson-Kellerman, the manufacturer of Kestrel Pocket Weather Meters, for the past several years to develop and enhance their product capabilities for law enforcement. This writer receives new models to test annually and provides feedback specific to enhance and develop features for EOD and SWAT call outs where weather data is critical for personnel rehabilitation and hydration guidelines.

In 2012, we began using heat stress tracking technology on all callouts and factored Global Thermal Workload Limits (GTWL) into all calculations used by this writer to determine safety limits and downrange work limits for personnel working a scene. This technology helps by reducing the guesswork used to determine time limits and heat stress factors for personnel in heavy equipment. This can greatly reduce the possibility of a heat stress injury before it even could occur.





GTWL Device used on call-out

Scratches (Call Where No Medic Is Available)

While we strive to answer all calls immediately, there have been rare occasions where no tactical Paramedic from either agency was available to answer a call and therefore it is considered a "scratch." While this does not happen very often, after reviewing the data, this writer concluded that over 80% of the scratches are for Wilmington Police calls or activations. The primary reason for this is communication issues with activations that delay Paramedic notification. While Delaware State Police calls normally come from one source, HQCOMM and Wilmington Police SWAT calls can come from anyone who has access to a distribution list. The problem lies in the fact that currently, there are many different versions of the distribution list in circulation. I am currently notified of all DSP calls, but DSP Paramedic Team Leaders (Cpl. Pragg and Sgt. Mark) only receive WPD calls if the appropriate list is used. I have attempted to address this issue several times unsuccessfully and until a definitive solution to this issue is resolved, WPD scratches will most likely remain consistent. It should also be noted, that on three occasions this year, DSP medics responded to late notifications for WPD SWAT calls and even though WPD was notified they were responding, the team did not wait and left without them. My concern is that if this practice continues, the WPD scratch rate will get worse as medics may not respond if they realize they will not be utilized. I am only reporting these issues so that we can help to find resolutions to them as I consider them "growing pains" of an overall very successful program. No system will ever be perfect and adjustments will always need to be made as our system continues to grow with the demand for service.

Recommendations for the Future

- Address dispatch/communication issues as listed above
- Identify and start training WPD personnel who are already Paramedics and EMT's
- Establish WPD internal command structure for this program if more personnel are assigned to be responsible for licensure, training, security of drugs/DEA compliance, reporting procedures, scheduling and assignments of calls for service
- Establish future standardized vehicle purchase and replacement guidelines for tactical paramedics including storage and security Schedule 4 narcotics
- Establish baseline medical work-ups on all SWAT/EOD personnel including 12-lead EKG, baseline vitals, history sheet and make it mandatory per quarter or at least twice a year.
- Once more personnel are trained and assigned to program, rotate first due responsibilities to ensure all activations are covered to decrease scratch ratio.

Conclusion

The data listed continues to support the significant need for specialized tactical/EOD Paramedic services for both the Wilmington Police Department and the Delaware State Police alike. Furthermore, this program has been proven successful and continues to protect our responding personnel and citizens alike during major and critical incidents. Having trained police officer paramedics in the hot zone and in place for special events has been proven to be an asset for our agencies and the citizens we serve. Serious injuries can often be avoided by having personnel on the front lines to assess and manage small medical issues before they become larger ones. This enables team members to remain on their assignments for longer operational periods and has been proven to be a "best practice" in police operations around the country.

2012 DSP Helicopter Missions

2012 DSF Hencopter Wissions							
	KENT	NEW CASTLE	OTHER	SUSSEX	TOTAL		
Medical	293	358	27	391	1069		
Scene	43	98	19	74	234		
Negative Transport	250	258	8	312	828		
Inter-Hospital					0		
Medic Assist		2		5	7		
Traffic	6	23		21	50		
Search & Rescue	13	80	3	64	160		
Reconnaissance	7	14		12	33		
Criminal Search	44	199	5	177	425		
Surveillance	7	90		106	203		
Maint & Testing	8	65		50	123		
Training	6	125		129	260		
Demonstrations					0		
Fire Related	4	6		14	24		
Police Related	4	5		4	13		
Public Related	3	13	2	8	26		
Law Enforcement		12		4	16		
Fire Fighting	1			9	9		
Other	10	42	10	19	81		
TOTAL	405	1032	47	1008	2492		

Trooper-4 Refused 57 calls due to weather Trooper-2 Refused 106 calls due to weather

2012 DSP Helicopter Flight Hours

	KENT	NEW CASTLE	OTHER	SUSSEX	TOTAL
Medical	76.1	89.4	12.8	117.9	296.2
Scene	32.9	45.4	12.1	74.7	165.1
Negative Transport	43.2	43.1	0.7	41.7	128.7
Inter-Hospital					0
Medic Assist		0.9		1.5	2.4
Traffic	4.4	12.8		16.7	33.9
Search & Rescue	7.8	32.2	0.3	22.8	63.1
Reconnaissance	4.9	9.7		13.6	28.2
Criminal Search	23.3	86.2	2.4	83.5	195.4
Surveillance	6.8	45.7		45.6	98.1
Maint & Testing	4.5	43.6		46.5	94.6
Training	4	139.9		88.8	232.7
Demonstrations	5.3	10.4	1.3	5.9	22.9
Law Enforcement		6.4			6.4
Fire Fighting	-			3.2	3.2
Other	3.2	24.2	16.3	13.9	57.6
TOTAL	140.3	500.5	33.1	458.4	1132.3

2012 AED Deployments

The Delaware State Police Aviation Section oversees the Divisions AED program. In 2012, Troopers deployed their Automated External Defibrillator (AED) on 16 occasions, which met the criteria for download (pads-on-patient). The following is a summary of the utilizations:

- •8 utilizations where the AED analyzed followed by a "No Shock Advised" prompt. The patient was subsequently pronounced deceased.
- •3 utilization where the AED analyzed followed by a "NO shock advised" prompt. Patient care was subsequently taken over by the paramedics. Upon arrival at the hospital the patient had a pulse.
- •3 utilizations where the Trooper administered multiple shocks followed by CPR. The patient was subsequently transported to the hospital where they were pronounced.
- •2 utilizations where the Trooper administered multiple shocks followed by the patient having a spontaneous return of circulation (ROC). The patient arrived at the hospital alive.

2012 Infectious Disease Exposures

For the 2012 calendar year, the Delaware State Police had a total of nine confirmed infectious disease exposures. In addition, there were a total of seven cases that did not meet the exposure criteria; however, these incidences were documented and placed in a file.

Of Significant Importance: There was one incident this year involving exposure to scabies. In addition to receiving medical evaluation and treatment for those Troopers who were exposed, this incident required extensive decontamination of the state police facilities to include vehicles.

There was also an infectious disease exposure as a result of a Trooper not following DSP protocol and the American Heart Association (AHA) guidelines when the Trooper provided mouth to mouth on a cardiac arrest victim without a barrier device. During the resuscitative efforts the victim vomited inside the trooper's mouth causing a "Significant Infectious Disease Exposure".

Moving Forward

During the 2012 calendar year the Division entered into the RFP process for purchasing new aircraft to replace the Division's aging fleet. After potential aircraft were identified the various manufacturers conducted presentations and the test flight committee evaluated all of the aircrafts using a standardized scoring sheet. The new aircraft selection committee will take their findings and recommendation to Secretary Schiliro where a final determination will be made. A recommendation will be based on the safest most capable aircraft to perform the section's expanding multi-mission profile.

In addition, the section continues to analyze manpower options to support the ever increasing mission and to ensure that we continue to provide superior service to those that we serve by honoring the Division's Core Values of Honor, Integrity, Courage, Loyalty, Attitude, Discipline and Service. On the heels of Master Corporals Jeff Ford, Ron Ferguson and Sergeant Christopher Dooner's retirements, the Section is actively recruiting new Section personnel to fill the voids.



Christiana Care/LifeNet 2012 DEMSOC Report

Submitted by Carol A. Faedtke, RN, BSN, MJ Chief Flight Nurse

Christiana Care/LifeNet has been proudly providing critical care aviation transport and emergency services support to Delaware and our surrounding states since the spring of 2001. As a two aircraft program, with bases in New Castle and Sussex Counties, we have become an integral part of delivering quality care to those citizens who have become critically ill or injured and require transfer for definitive treatment.

A highly skilled, and critically educated medical crew, consisting of a flight nurse and paramedic, are able to maintain or increase the life sustaining treatment initially started for the patient. By having extensive protocols, readily available medications, critical care monitoring capabilities, and on line medical direction, patient care is not interrupted during transport.

Christiana Care/LifeNet has been CAMTS accredited since April 2006. This certification indicates that the aviation and patient care systems have gone through a rigorous site survey and found to meet or exceed the nationally established standards for medical transport programs. We are preparing for our third site survey in the coming weeks.

2012 Accomplishments

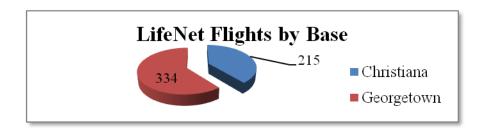
A total of 549 aviation missions were completed in 2012. Transports were requested from 34 referring hospitals across 4 states and accepted by a total of 28 major hospitals providing specialty care. 20 scene missions were completed with the highest percentage being in Sussex County. We were requested to and participated in state and county evacuation drills, and multicasualty incident training.

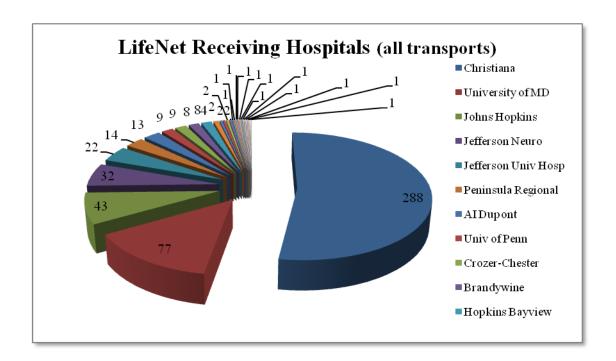
LifeNet 6-1 and 6-4 are popular requests for community programs throughout the tri-state area. 32 outreach educational appearances were provided for local businesses, schools, EMS agency functions, and scouting organizations. The medical crew and EMS pilots, also provide education for members of the state's EMS and Fire Service programs.

Summary

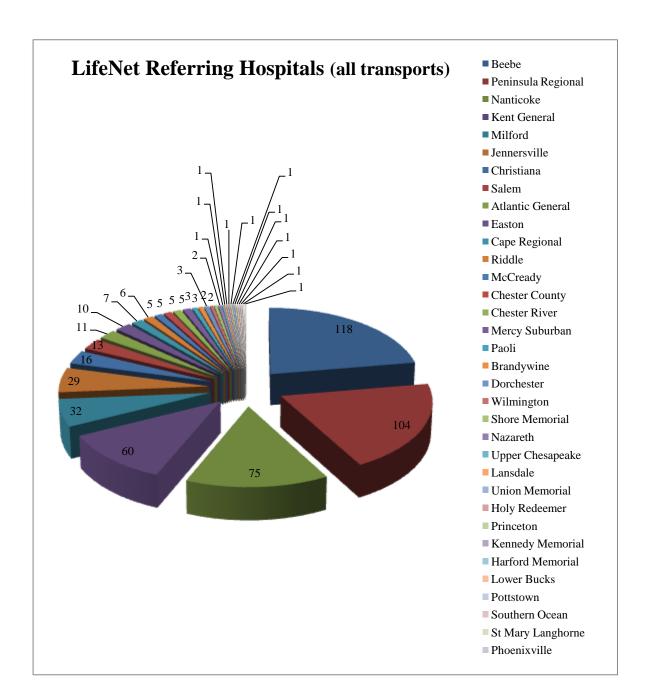
Christiana Care/LifeNet's program director, pilots, mechanics, medical leadership, nurses and paramedics, strive to provide the most efficient, timely, and highest quality patient care possible. As part of our dedication to the communities we serve, crew members are involved in emergency services and patient care committees throughout our catchment area at the state and local levels.



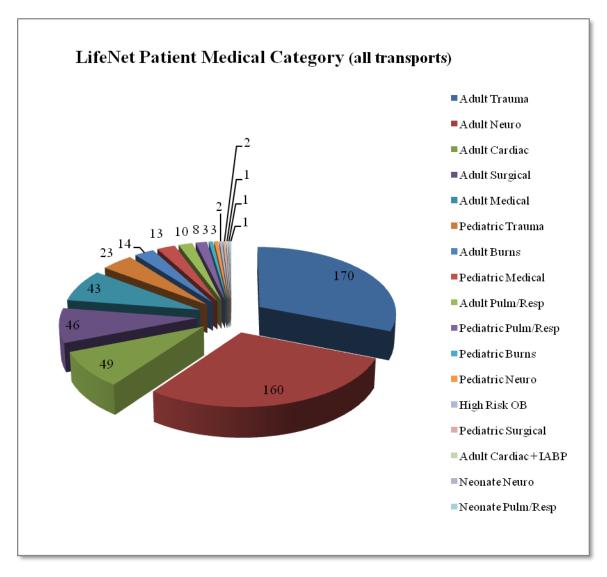




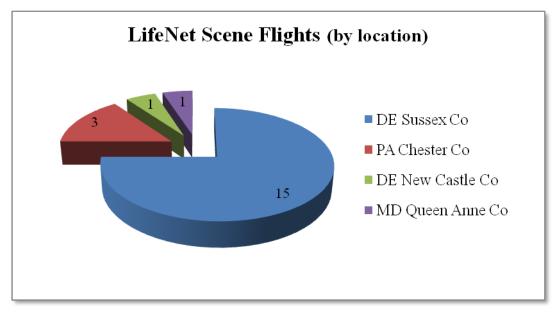




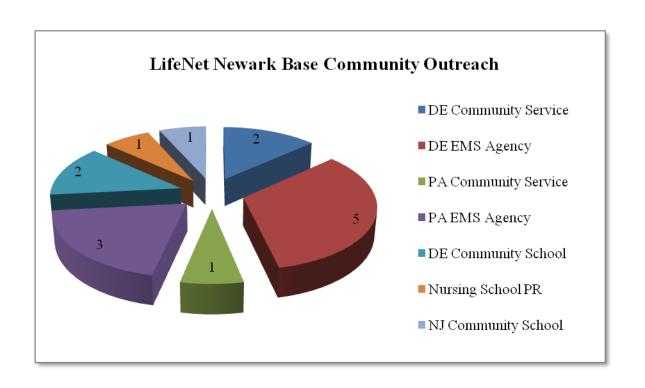












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Who We Are

Safe Kids Delaware, led by Delaware's Division of Public Health, is a member of Safe Kids Worldwide, the nation's first non-profit organization dedicated solely to the prevention of accidental childhood injury. Safe Kids Worldwide is made up of more than 600 state and local Safe Kids coalitions in all 50 states, the District of Columbia and Puerto Rico. Safe Kids Delaware consists of more than 20 community, civic, and state organizations. The Coalition's initiatives include classroom-based programs and educational events for families. The Coalition focuses on promoting child passenger, water, pedestrian, fire, and bike safety.

What We Do

Safe Kids Delaware promotes changes in attitudes, behaviors, laws, and the environment to prevent accidental injury to children. In the United States, Safe Kids partnerships have contributed to a 45 percent reduction in the child fatality rate from accidental injury – saving an estimated 38,000 children's lives nationwide. Locally, this is done thru community partnerships, advocacy, public awareness and distribution of safety equipment with education on proper use. From January 1, 2012 through October 15, 2012, Safe Kids Delaware participated in 125 health fairs, safety camps, classes, and events in various area schools, businesses, and communities, reaching approximately 22,881 children and their families. Our Annual Safe Kids - EMSC Conference attracted approximately 125 professional and paraprofessionals who were thoroughly impressed with all that the conference had to offer.

How We Do It

Safe Kids Delaware is committed to making a strong impact on Delaware's children and their families. We intend to do this by educating more families, providing more car seats and bike helmets to families in need, and advocating for better laws to help keep children safe and healthy. Our success in achieving these goals is heavily dependent on new and current funding sources. We are continuing to seek resources and partnerships that will contribute to the ongoing efforts of Safe Kids Delaware and its mission.

Summary

The goal of Safe Kids Delaware is to raise awareness in our state of the current preventable injury issues, educate individuals in effective injury prevention strategies, and motivate them to participate in our vision for an injury-free life for all children.



"If a disease were killing our children at the rate that unintentional injuries are, the public would be outraged and demand that this killer be stopped." C. Everett Koop, M.D., Sc.D., Former U.S. Surgeon General

Photo and quotation courtesy Safe Kids USA website http://www.safekids.org/

Special Needs Alert Program

Who We Are

The Special Needs Alert Program (SNAP-911) assists responders in providing emergency care for children with special health care needs. SNAP-911 can improve care by facilitating the transfer of information from parents to EMS to the hospital. SNAP-911 alerts providers to look for medical information even when a parent is not present during an emergency. Completed SNAP-911 enrollment, emergency medical information and consent forms are entered into a secure SNAP-911 electronic database. The child's medical information is given to the 911 dispatch center, the county-based paramedic service and the local fire company and is made accessible to responding units through secure methods.

What We Do

SNAP-911 is part of the Delaware Emergency Preparedness Voluntary Registry for citizens who have special needs. www.de911assist.delaware.gov Parents or guardians enrolling a child in the Voluntary Registry have the option to complete a SNAP-911 enrollment through that process.

There are over 267 children enrolled in SNAP-911. An additional 78 children are in the enrollment process. The dates of highest enrollments coincide with the beginning of a new school year and weather related emergencies.

The Delaware Student Health Forms now include language related to enrollment in SNAP-911:

DE Student Health Form – Children FINAL2012 DE Student Health Form – Adolescent FINAL2012

Delaware Child Development Watch partnered with us to share SNAP-911 enrollment packets with 125 Amish families with school age children. Materials were shared through prearranged visits to each of the nine Amish schools in Kent County. Both verbal and written information regarding the Special Needs Alert Program was provided to the respective teachers to disseminate to the families served by that particular school.

How We Do It

Increasing outreach and enrollment opportunities is a challenge and key component to continued program growth. Working with existing partners and building new avenues of outreach through trainings and information sharing with the public school system, professional medical organizations, disability groups and parent organizations will facilitate increased enrollment.

Summary

SNAP-911 continues to work with emergency response agencies and families with children with special health care needs to provide an increase of medical information available at the time of a 911 emergency call.

Crash Outcome Data Evaluation System (CODES)

CODES Project is a collaborative effort between the OEMS, the Delaware State Police, the Delaware Health Statistics Center and the Delaware Office of Highway Safety. From these agencies, OEMS collects many types of data (e.g., demographic, injury severity, hospital charge, etc.) that are linked, analyzed and publicized. Resulting data allow state agencies, policymakers and the public to understand the causes and impacts of motor vehicle crashes.

2012 Accomplishments

- •Linked 2009 CODES data, generated fact sheets, and prepared motor vehicle crash hospitalization data for National Highway Traffic Safety Administration (NHTSA) and Delaware Office of Highway Safety (OHS).
- •Participated Single Unit Truck Crashes Study using 2006-2008 linked data for National Transportation Safety Board (NTSB) and NHTSA.
- •Linked 2010 crash, prehospital, and trauma registry data to support the OHS sub grant-"Highway Injury: Analyses of Trauma System Emergency Department Data and CODES-Trauma Data Linkage"
- •Linked 2010 crash and emergency department data to support the OHS sub grant-"Highway Injury: Analyses of Trauma System Emergency Department Data and CODES-Trauma Data Linkage"
- •Participated in the Driver Education Program Technical Assessment coordinated by the Office of Highway Safety. The topic of the presentation was novice driver statistics. The Driver Education Program Technical Assessment is offered to the states by National Highway Traffic Safety Administration (NHTSA) to allow those responsible for oversight to review their driver education program. The technical assessment program is a tool states can use to review their driver education program, note the program's strengths and accomplishments, and determine where improvements can be made.
- •Presented the report of "Injury Analysis of 16 and 17 Year Old Drivers in Delaware" at 2012 CODES Network Annual Program and Technical Assistance Meeting.
- •The analysis of Highway Injury Data Analysis Using Linked Data has been awarded funding from the Office of Highway Safety. The purpose of this grant project is to decrease highway-related death and disability to Delaware residents by continuing the current studies of relationships among risk-taking behaviors, highway crashes, extent (severity) of injury, and hospital outcomes. The resulting information will be used by the Office of Highway Safety to plan and implement more effective injury prevention programs. This project will improve the quality of life for Delaware's citizens by promoting health and well-being through use of the analyses to develop targeted and more effective injury prevention initiatives.

•The Emergency Medical Services and Preparedness Section's Office of Emergency Medical Services CODES has provided the injury cost information requested by the policy research for the Texas Legislative Council on the economic impact of hit-and-run crashes. The crash-related injury cost model is provided by CODES resource center, National Highway Traffic Safety Administration (NHTSA). It estimates the costs from the medical charges information in hospital file based on the Economic Impact of Motor Vehicle Crashes, 2000; Blincoe L, Seay A, Zaloshnja E, Miller T, Romano E, Luchter S, et al.; U S Dept of Transportation, NHTSA 2002.

2012 Goals

- •Completed linking 2009 crash report, EMS, and hospital discharge files.
- •Continue responding to NHTSA and Delaware OHS data requests in the format requested and in a timely manner.
- •Continue linking crash, EMS, and hospital discharge data to support OHS sub grant- The analysis of Highway Injury Data Analysis Using Linked Data.

Summary

CODES tracks victims of a motor vehicle crash from the scene through the health care system to determine crash outcome in terms of mortality, injury, severity, and health care costs. Continue developing CODES Data Network of linked crash and injury data to analyze the injury and hospital outcomes in support of injury prevention and highway safety.

Infection Disease Control

An essential and integral part of pre-hospital practice in Delaware is infection control. Infection control is intended to reduce the spread of diseases and infections from patient to provider and from provider to patient.

Delaware's infection control program includes pre-hospital care providers (EMT's, paramedics and first responders), firefighters and law enforcement personnel. All pre-hospital providers may request notification concerning an exposure to an infectious disease. Every emergency medical care facility and agency (volunteer or career) shall appoint a designated infection control officer (DO) responsible for guiding providers through the infection control reporting process. In addition, Delaware is one of few states that conduct mandatory source testing.

Diseases are normally caused by bacteria and viruses and can be spread by human to human contact; human to animal contact; contact with a contaminated surface; airborne transmissions through tiny droplets of infected agents suspended in the air and by such common methods as food and water. Delaware has policies and procedures in place to minimize the risk of infection and reduce the occurrence of exposure to infectious agents. Pre-hospital and hospital medical environments require higher levels of preventative methods and disease management due to the elevated risk of spreading infectious diseases in these settings.

Preventative and proactive measures offer the best protection for individuals and agencies that may be at risk for elevated exposure to infectious diseases. A viable infection control program must be an effective and integral part of the pre-hospital practice due to the elevated risk of exposure to pre-hospital providers. Since 1993, Delaware has reviewed 202 potential exposures reported by pre-hospital providers and in 2012 reviewed 23. This number is down from the 31 reported exposures in 2011. The table below represents the type of exposures reported in 2012:

Type of Exposure for 2012	Reports
Inhalation: coughing, sneezing, confined proximity	2
Ingestion: splash/spray, hand-to-mouth contact, mouth-to-mouth contact,	5
etc.	
Percutaneous: medical sharps, hollow-bore needle, bite, etc.	4
Mucocutaneous: oral, nasal, ocular	0
Cutaneous: non-intact skin, intact skin with large fluid volume	12

Infectious diseases are a threat and require aggressive methods of protection. Due to ever evolving changes in the environment and lifestyles, new diseases and mutations of known diseases are discovered at a rate of approximately 20 to 30 per year. Delaware ambulances are equipped with the latest personal protection equipment and alternative products are constantly reviewed in order to keep abreast of the latest methods to reducing risks of exposure to infectious diseases.

All agencies are required to provide education and training to their personnel in infectious disease policies and universal precautions. This training gives providers an overview of common diseases that have a potential for transmission and the latest methods to reducing risk of transmission.

Thank You

The Delaware Emergency Medical Services Oversight council (DEMSOC) would like to express a sincere thank you to all the agencies that submitted photos, data and text for this year's DEMSOC report.

Office of EMS, Office of Preparedness, Department of Safety and Homeland Security, SFPC, DSFS, State Fire Marshal's Office, Delaware Technical and Community College, New Castle County EMS, Kent County EMS, Sussex County EMS, Delaware State Police, Delaware Healthcare Association, E911 Board, Emergency Medical Services for Children, DE Trauma Committee, NCC Dispatch, KC Dispatch, SC Dispatch, Rehoboth Dispatch, Seaford Dispatch, CCHS LifeNet, Aetna Fire Co, Bethany Beach Fire Co, Laurel Fire Co.